



State of Utah

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Department of Administrative Services

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Division of Facilities Construction and Management

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## ADDENDUM NO. 3

Date: July 13, 2009

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From: Brian Bales – Project Manager

Reference: Libbie Edwards School Remodel  
The Utah School for the Deaf and Blind  
DFCM Project No. 08260200

Subject: **Addendum No. 3**

Pages	Addendum Cover	1 pages
	<u>Architect's Addendum</u>	<u>95 pages</u>
	Total	96 pages

**Note:** *This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to Disqualification.*

While we contend that SB220 should only be potentially applicable to a contract issued after the effective date of said bill, this is to clarify that for purposes of this contract, regardless of the execution or effective dates of this contract, the status of Utah Law and remedies available to the State of Utah and DFCM, as it relates to any matter referred to or affected by said SB220, shall be the Utah law in effect at the time of the issuance of this Addendum.

3.1 **SCHEDULE CHANGES:** No Project Schedule changes.

3.2 **GENERAL ITEMS:** See attached Architect's Addendum No. 1

## ADDENDUM - 1

Project: Libbie Edwards School Remodel, Utah School For The Deaf and Blind

DFCM Project Number: 08260200

Axis Project Number: 0912

To: Brian Bales

From: Axis Architects

Date: July 13, 2009

### **Please make the following revisions to the construction documents:**

#### **General:**

Removal of exterior windows and ceramic/porcelain tile containing lead will be accomplished by DFCM under a separate contract. Bidding Contractors shall refer to the attached DFCM Addendum #3, and the associated hazardous materials report for detailed analysis and locations for this work, and coordinate their bids accordingly. The General Contractor shall coordinate with DFCM to accommodate the accomplishment of this separate contract. The General Contractor shall also provide patching and filling of voids as a result of hazardous materials removal, sufficient to allow for the accomplishment of the work outlined in the Construction Documents for this project.

#### **Prior Approvals:**

Daly & Associates; Columbia Partitions, Lockers, Accessories – Approved to bid, provided the product is compatible with the Specifications.

#### **Specifications:**

- 04 01 20 Maintenance of Unit Masonry - This section is attached to the specifications for Alternate # 6. Also add the following: the water spray pressure shall be adjusted to be non-destructive to the mortar and masonry.
- 05 50 00 Metal Fabrications – Section 3.4 – Installing Pipe Bollards – Part C. Revise to read “Fill bollards solidly with concrete, provide steel cap as shown in Detail ST-04”.
- 07 51 00 Asphalt Built-Up Roofing – Modify for contractor to match existing roofing system. Transition from new roofing to existing shall be water tight.
- 07 62 00 Sheet Metal Flashing and Trim – Delete No. 1 Item – Formed Roof Drainage System is not in this project.
- 08 14 00 Flush Wood Doors – Delete “Section 2.7 Louvers”.
- 08 41 13 All glazing and frames to be center glazed.
- 08 71 00 The existing key cylinder manufacturer is not known. Contractor’s shall verify the key cylinder manufacturer on site prior to bidding.
- 08 80 00 Glazing - All glazing to be center glazed installation.
- 09 91 00 Remove the previously issued Section 09 91 00 and replace it with the attached, revised Section 09 91 00.

## Submitted Questions with answers:

1. "Specification Section 04 01 20 1.8 A3 Reads "Inspect for open mortar joints and repair " This scope won't be defined until the cleaning process has begun and condition of the mortar is realized. Since this scope is not quantifiable at this time are we to assume in our bid that the mortar and bricks will stand up the high pressure spray as indicated in section 1.3 D?" **Answer: Please refer to the revision to Specification Section 04 01 20 above; the water spray pressure shall be adjusted to be non-destructive to the mortar and masonry.**
2. "Note 7 on sheets AE101A and AE101B states "Repair and replace plaster and gypsum board at window jambs, sills, and headers after window replacement." Is your intent to have repairs made with plaster to match existing finishes, or should a smooth gyp board finish be used? If Drywall is to be used, skim coating the adjacent surfaces and walls might be necessary to make a smooth transition. Please clarify." **Answer: It is believed that a combination of gypsum board with a plaster 'overlay' was used at the interior of windows (where plaster occurs). It will be the Contractors option to use all-plaster, or to use a combination of gypsum board and plaster. Please note that DFCM will be contracting for the removal of windows, because of the presence of lead. See the DFCM Addendum #3, and associated Hazardous Material Survey.**
3. Note 3 on sheet AE101A and AE101B states that contractor is to "sand off existing texture and match with new." Is your intention to have the entire surface of that wall skim coated to a smooth finish? In some areas, such as the hallways, skim coating the entire adjacent existing surface could mean the entire length of the hallway. Is this your intent? If not, please clarify the extent to which we should "feather out" into the existing finishes. **Answer: It is not the intent that large surfaces be sanded and skim coated. The intent is that new surfaces be made to blend in with existing surfaces. In areas where a new surface occurs within a large existing wall, the Contractor should match the existing texture as much as possible, so the new surface doesn't stand out. For purposes of bidding, it is not expected that this blending/feathering should require more than 1 or 2 feet to accomplish.**
4. We are unable to find any "ST" Sections for the site elements described on AE001. Please help us locate these, or provide. **Answer: The Details for this project are located in a Detail Book that is referenced below the Drawing Index. This Detail Book occurs at the back of the Project Manual.**
5. Doors 125A, 127, 128C, 131B, 134B, 141A, 143A, 169, 172, 173, 174, 175, 176, & 177 are indicated to be Frame Type 2. **Frame Type 2 is listed as 'Not Used' on Drawing Sheet AE801. Please Advise? Answer: Any doors indicated to be Frame Type 2, should be Frame Type 3.**
6. It appears that some existing walls to receive new door frames are wood framed, while some are masonry. Which existing walls are masonry and which are framed? **Answer: Bidding Contractors should verify wall construction and frame type on site.**
7. Some of the Structural Drawing Sheets won't print, or are corrupt. **Answer: some Structural Drawing Sheets are included for those that have been experiencing problems; see Attached.**

## Drawings:

- GI101: Remove the previously issued Drawing Sheet GI101 and replace it with the attached GI101.
- AD101A: - Revise Keynote 37, to read: EXISTING EXTERIOR WINDOWS TO BE REMOVED UNDER A SEPARATE CONTRACT BY DFCM. CONTRACTOR SHALL COORDINATE WITH DFCM TO ACCOMODATE THIS WORK, INCLUDING ACCESS TO THE SITE AND SCHEDULING ISSUES.

- At Restrooms 141 & 143, Vestibule 142; add Keynote 50, to read: ORIGINAL TILE TO BE REMOVED BY SEPARATE CONTRACT. CONTRACTOR SHALL COORDINATE WITH DFCM TO ACCOMODATE THIS WORK, INCLUDING ACCESS TO THE SITE AND SCHEDULING ISSUES. Bidding Contractors shall also refer to the attached Hazardous Material Survey for other locations where this work may occur.

- At the (4) existing restrooms between Grids 9 & 10 and F & E (approximately); add keynotes 11 & 14. Revise Keynote 14 to read: REMOVE EXISTING WALL TILE.

**AD101B:** - Revise Keynote 37, to read: EXISTING EXTERIOR WINDOWS TO BE REMOVED UNDER A SEPARATE CONTRACT BY DFCM. CONTRACTOR SHALL COORDINATE WITH DFCM TO ACCOMODATE THIS WORK, INCLUDING ACCESS TO THE SITE AND SCHEDULING ISSUES.  
- Revise Keynote 40, to read: REMOVE EXISTING ISLAND COUNTER AND CABINET. REMOVE EXISTING ELECTRICAL OUTLETS AND PROVIDE COVER PLATE AT FLOOR.

**AE101A:** At Vestibule 142, remove the finish symbol. Refer to AE501 for finishes on the Enlarged Plan for this area.

**AE101B:** At Restrooms 155, 156, 161 & 162, revise the Finish Symbol so that all walls are indicated to receive Wall Finish Number 8, Floor Finish Number F3 and Base Number B2.

**AE501:** - At Entry 142, revise the Finish Symbol so that all walls are indicated to receive Wall Finish Number 8. Note that the wood doors and frames will be painted as specified and not tiled over.  
- At the interior portion of Entry 142, add Keynote 9D to wood frames around these openings.  
- Add Keynote 9D to the Keynote List, to read: PREPARE AND PAINT EXISTING DOOR, FRAME AND ASSOCIATED WINDOW FRAMES – INTERIOR AND EXTERIOR. REPAIR IF NECESSARY.  
- At Restroom 120B, Revise the door type from BA to A.

**DFCM:** See the attached Addendum #3 from DFCM, and associated Hazardous Material Survey (Asbestos Survey and Assessment).

**Food Service:** See the Food Service Equipment Addendum #1

**Structural:** See the attached Structural Addendum.

**Mechanical:** See the attached Mechanical Addendum.

**Electrical:** See the attached Electrical Addendum #1.

**Attachments:**

- Specification Section 09 91 00 - Painting
- Drawing Sheet G1101
- DFCM Addendum #3
- Hazardous Material Survey
- Food Service Equipment Addendum #1
- Structural Addendum
- Structural Drawing Sheets SG001, SF101A, SF501 and SF502 (included only because some people have had problems printing these files)
- Mechanical Addendum

- Electrical Addendum #1

Note: This addendum shall be part of the construction documents. Items in this addendum apply to all drawing and specification sections whether referenced or not involving the portion of the work added, deleted, modified or otherwise addressed in the addendum. Acknowledge receipt of this addendum in the space provided on the bid form. Failure to do so may subject the bidder to disqualification.

End of Addendum

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section includes painting work, interior and exterior. Work Includes, but is not limited to painting the following:
1. Exterior steel.
  2. Exterior metal mechanical units.
  3. Interior walls and ceilings.
  4. Interior steel rails and misc. metal.
  5. Exterior exposed metal flashing.
  6. Work includes field painting of exposed bare and covered pipes and ducts (including color coding), and of hangers, exposed steel and iron work, plug mold, electric panels, and primed metal surfaces of equipment installed under mechanical and electrical work, except as otherwise indicated. Field painting of a roof mounted mechanical units is part of this section.
- B. "Paint" as used herein means all coating systems materials, including primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate or finish coats.
- C. Surfaces to be Painted: Except where natural finish of material is specifically noted as a surface not to be painted, paint all exposed surfaces whether or not colors are designated in "schedules". Where items or surfaces are not specifically mentioned, paint the same as similar adjacent materials or areas. If color or finish is not designated, Architect will select these from standard or custom colors and finishes. Multiple colors may be selected by the Architect for any type of paint system.
1. Surface preparation, priming and coats of paint specified are in addition to shop-priming and surface treatment specified under other sections of work.
  2. Walls behind scheduled coverings shall receive prime coat.
  3. If it can be seen, paint it.
- D. Following categories of work are not included as part of field-applied finish work.
1. Pre-Finished Items: Unless otherwise indicated, do not include painting when factory-finishing or installer-finishing is specified for such items as (but not limited to) metal toilet enclosures, prefinished partition systems, acoustic materials, architectural woodwork and casework, elevator entrance doors and frames, elevator equipment, and finished mechanical and electrical equipment, including light fixtures, switchgear and distribution cabinets.
  2. Concealed Surfaces: Unless otherwise indicated, painting is not required on surfaces such as walls or ceilings in concealed areas and generally inaccessible areas, foundation spaces, furred areas, utility tunnels, pipe spaces, duct shafts and elevator shafts.
  3. Finished Metal Surfaces: Unless otherwise indicated, metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar finished materials will not require finish painting.
  4. Operating Parts: Unless otherwise indicated, moving parts of operating units, mechanical and electrical parts, such as valve and damper operators, linkages, sinkages, sensing devices, motor and fan shafts will not require finish painting.
  5. Do not paint over any code-required labels, such as Underwriters' Laboratories and

Factory Mutual, or any equipment identification, performance rating, name, or nomenclature plates.

- C. Related Sections:
  - 1. Shop Primers: Unless otherwise specified, shop priming of ferrous metal items is included under various sections for structural steel, metal fabrications, hollow metal work and similar items.
    - a. Unless otherwise specified, shop priming of fabricated components such as architectural woodwork, wood casework and shop-fabricated or factory-built mechanical and electrical equipment or accessories is included under other sections of these specifications.
- D. Related Documents: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

## 1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's technical information including Paint label analysis and application instructions for each material proposed for use.
- B. Samples: Prior to beginning work, Architect will furnish color chips for surfaces to be painted. Use representative colors when preparing samples for review. Submit samples for Architect's review of color and texture only. Provide a listing of material and application for each coat of each finish sample.
  - 1. On 12" x 12" hardboard, provide two samples of each color and material, with texture to simulate actual conditions. Resubmit samples as requested by Architect until acceptable sheen, color, and texture is achieved.
  - 2. On actual wood surfaces, provide two 4" x 8" samples of natural and stained wood finish. Label and identify each as to location and application.
  - 3. On actual wall surfaces and other exterior and interior building components, duplicate painted finishes of prepared samples. Provide full-coat finish samples on at least 100 sq. ft. of surface, or as directed, until required sheen, color and texture is obtained; simulate finished lighting conditions for review of in-place work.
    - a. Final acceptance of colors will be from samples applied on the job.

## 1.3 QUALITY ASSURANCE

- A. Single Source Responsibility: Provide primers and other undercoat paint produced by same manufacturer as finish coats. Use only thinners approved by paint manufacturer, and use only within recommended limits.
- B. Coordination of Work: Review other sections of these specifications in which prime paints are to be provided to ensure compatibility of total coatings system for various substrates. Upon request from other trades, furnish information or characteristics of finish materials provided for use, to ensure compatible prime coats are used.

## 1.4 DELIVERY AND STORAGE

- A. Deliver materials to job site in original, new and unopened packages and containers bearing manufacturer's name and label, and following information:
  - 1. Name or title of material.
  - 2. Fed. Spec. number, if applicable.
  - 3. Manufacturer's stock number and date of manufacture.

4. Manufacturer's name.
  5. Contents by volume, for major pigment and vehicle constituents.
  6. Thinning instructions.
  7. Application instructions.
  8. Color name and number.
- B. Store materials not in actual use in tightly covered containers. Maintain containers used in storage of paint in a clean condition, free of foreign materials and residue.
1. Protect from freezing where necessary. Keep storage area neat and orderly. Remove oily rags and waste daily. Take all precautions to ensure that workmen and work areas are adequately protected from fire hazards and health hazards resulting from handling, mixing and application of paints.

## 1.5 JOB CONDITIONS

- A. Apply water-base paints only when temperature of surfaces to be painted and surrounding air temperatures are between 50°F and 90°F, unless otherwise permitted by paint manufacturer's printed instructions.
- B. Apply solvent-thinned paints only when temperature of surfaces to be painted and surrounding air temperatures are between 45°F and 95°F, unless otherwise permitted by paint manufacturer's printed instructions.
- C. Do not paint in snow, rain, fog or mist, or when relative humidity exceeds 85%, or to damp or wet surfaces, unless otherwise permitted by paint manufacturer's printed instructions.
1. Painting may be continued during inclement weather if areas and surfaces to be painted are enclosed and heated within temperature limits specified by paint manufacturer during application and drying periods.
- D. Determine moisture content of surfaces to be painted by performing appropriate tests using a commercially available moisture meter. Apply paint only when surfaces are within limits specified by the paint manufacturer's printed instructions.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURER

- A. Approved Manufacturers:
1. ICI Paint Stores.
  2. PPG Industries, Pittsburgh Paints (Pittsburgh).
  3. Pratt and Lambert (P & L).
  4. The Sherwin-Williams Company (S-W).
  5. Benjamin Moore & Co.
  6. Kwal-Howells Paint.

### 2.2 MATERIALS

- A. Material Quality: Provide best quality grade of various types of coatings as regularly manufactured by acceptable paint materials manufacturers. Materials not displaying manufacturer's identification as a standard, best-grade product will not be acceptable.
- B. Proprietary names used to designate color or materials are not intended to imply that

products of named manufacturers are required to exclusion of equivalent products of other manufacturers.

- C. Federal Specifications establish minimum acceptable quality for paint materials. Provide written certification from paint manufacturer that materials provided meet or exceed these minimums.
- D. Manufacturer's products which comply with coating qualitative requirements of applicable Federal Specifications, yet differ in quantitative requirements, may be considered for use when acceptable to Architect. Furnish material data and manufacturer's certificate of performance to Architect for any proposed substitutions.
- E. Color Pigments: Pure, non-fading, applicable types to suit substrates and service indicated.
- F. Lead content in pigment, if any, is limited to contain not more than 0.06% lead, as lead metal based on the total non-volatile (dry-film) of paint by weight.
  - 1. This limitation is extended to interior surfaces and those exterior surfaces, such as stairs, decks, porches, railings, windows, and doors which are readily accessible to children under seven years of age.

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. Applicator must examine areas and conditions under which painting work is to be applied and notify Contractor in writing of conditions detrimental to proper and timely completion of work. Do not proceed with work until unsatisfactory conditions have been correct in a manner acceptable to Applicator.
- B. Starting of painting work will be construed as Applicator's acceptance of surfaces and conditions within any particular area.
- C. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions otherwise detrimental to formation of a durable paint film.

#### **3.2 PREPARATION**

- A. General: Perform preparation and cleaning procedures in accordance with paint manufacturer's instructions and as herein specified, for each particular substrate condition.
- B. Provide barrier coats over incompatible primers or remove and reprime as required. Notify Architect in writing of any anticipated problems in using the specified coating systems with substrates primed by others.
- C. Remove hardware, hardware accessories, machined surfaces, plates, lighting fixtures, and similar items in place and not to be finish-painted, or provide surface-applied protection prior to surface preparation and painting operations. Remove, if necessary, for complete painting of items and adjacent surfaces. Following completion of painting of each space or area, reinstall removed items.
- D. Clean surfaces to be painted before applying paint or surface treatments. Remove oil and grease prior to mechanical cleaning. Program cleaning and painting so that contaminants

from cleaning process will not fall onto wet, newly-painted surfaces.

- E. Cementitious Materials: Prepare cementitious surfaces to be painted by removing efflorescence, chalk, dust, dirt, grease, oils, and by roughening as required to remove glaze.
  - 1. Determine alkalinity and moisture content of surfaces to be painted by performing appropriate tests. If surfaces are found to be sufficiently alkaline to cause blistering and burning of finish paint, correct this condition before application of paint. Do not paint over surfaces where moisture content exceeds that permitted in manufacturer's printed directions.
  - 2. Clean concrete floor surfaces scheduled to be painted with a commercial solution or muriatic acid, or other etching cleaner. Flush floor with clean water to neutralize acid, and allow to dry before painting.
- F. Ferrous Metals: Clean ferrous surfaces, which are not galvanized or shop-coated, of oil, grease, dirt, loose mill scale and other foreign substances by solvent or mechanical cleaning.
  - 1. Caulk fabrication joints in hollow metal door frames which paint application cannot bridge.
- G. Touch-up shop-applied prime coats wherever damaged or bare, where required by other sections of these specifications. Clean and touch-up with same type shop primer.
- H. Galvanized Surfaces: Clean free of oil and surface contaminants with non-petroleum based solvent.
- I. Wood: Clean wood surfaces to be painted of dirt, oil, or other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sandpaper smooth those finished surfaces exposed to view, and dust off. Scrape and clean small, dry, seasoned knots and apply a thin coat of white shellac or other recommended knot sealer, before application of priming coat. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood-filler. Sandpaper smooth when dried.
  - 1. Prime, stain, or seal wood required to be job-painted immediately upon delivery to job. Prime edges, ends, faces, undersides, and backsides of such wood, including cabinets, counters, cases, paneling.
  - 2. When transparent finish is required, use spar varnish for backpriming.
- J. Materials Preparation:
  - 1. Mix and prepare painting materials in accordance with manufacturer's directions.
  - 2. Maintain containers used in mixing and application of paint in a clean condition, free of foreign materials and residue.
  - 3. Stir materials before application to produce a mixture of uniform density, and stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.

### **3.3 APPLICATION**

- A. General: Apply paint in accordance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.
  - 1. Paint colors, surface treatments, and finishes, are indicated in "schedules" of the contract documents.
  - 2. Provide finish coats which are compatible with prime paints used.
  - 3. Apply additional coats when undercoats, stains or other conditions show through final coat of paint, until paint film is of uniform finish, color and appearance. Give special attention to insure that surfaces, including edges, corners, crevices, welds,

- and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
4. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Paint surfaces behind permanently-fixed equipment or furniture with prime coat only before final installation of equipment.
  5. Paint interior surfaces of ducts, where visible through registers or grilles, with a flat, non-specular black paint.
  6. Paint back sides of access panels, and removable or hinged covers to match exposed surfaces.
  7. Finish doors on tops, bottoms and side edges same as faces, unless otherwise indicated.
  8. Sand lightly between each succeeding enamel or varnish coat.
  9. Omit first coat (exterior faces of surfaces which have been shop-primed and touch-up painted, unless otherwise indicated).
- B. Scheduling Painting: Apply first-coat material to surfaces that have been cleaned, pretreated or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
1. Allow sufficient time between successive coatings to permit proper drying. Do not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.
  2. Minimum Coating Thickness: Apply materials at not less than manufacturer's recommended spreading rate, to establish a total dry film thickness as indicated or, if not indicated, as recommended by coating manufacturer.
- C. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to those items exposed to mechanical equipment rooms and in occupied spaces.
1. Mechanical items to be painted include, but are not limited to, the following:
    - a. Piping, pipe hangers, and supports.
    - b. Roof mounted mechanical units.
    - c. Ductwork, where exposed in occupied spaces.
    - e. Motor, mechanical equipment, and supports.
    - f. Accessory items.
  2. Electrical items to be painted include, but are not limited to, the following:
    - a. Conduit and fittings.
- D. Prime Coats: Apply prime coat of material which is required to be painted or finished, and which has not been prime coated by others.
1. Recoat primed and sealed surfaces where there is evidence of suction spots or unsealed areas in first coat, to assure a finish coat with no burn-through or other defects due to insufficient sealing.
- E. Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness or other surface imperfections will not be acceptable.
- F. Completed Work: Match approved samples for color, texture and coverage. Remove, refinish or repaint work not in compliance with specified requirements.

### 3.4 FIELD QUALITY CONTROL

- A. The right is reserved by Owner to invoke the following material testing procedure at any time, and any number of times during period of field painting:

1. Owner will engage services of an independent testing laboratory to sample paint being used. Samples of materials delivered to project site will be taken, identified and sealed, and certified in presence of Contractor.
  - a. Testing laboratory will perform appropriate tests for any or all of following characteristics: Abrasion resistance, apparent reflectivity, flexibility, washability, absorption, accelerated weathering, dry opacity, accelerated yellowness, recoating, skinning, color retention, alkali resistance and quantitative materials analysis.
  - b. If test results show that material being used does not comply with specified requirements, Contractor may be directed to stop painting work, and remove non-complying paint; pay for testing; repaint surfaces coated with rejected paint; remove rejected paint from previously painted surfaces if, upon repainting with specified paint, the two coatings are non-compatible.

### 3.5 CLEAN-UP AND PROTECTION

- A. Clean-Up: During progress of work, remove from site discarded paint materials, rubbish, cans and rags at end of each work day.
  1. Upon completion of painting work, clean window glass and other paint spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.
- B. Protection: Protect work of other trades, whether to be painted or not, against damage by painting and finishing work. Correct any damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.
  1. Provide "Wet Paint" signs as required to protect newly-painted finishes. Remove temporary protective wrappings provided by others for protection of their work, after completion of painting operations.
  2. At completion of work of other trades, touch-up and restore all damaged or defaced painted surfaces.
- C. Extra Stock: Deliver stock or maintenance materials to Owner. Furnish maintenance material matching products installed, packaged with protective covering for storage and identified with appropriate labels.
  1. Paint: Furnish not less than one (1) full gallon for each color and type of paint installed.

### 3.6 EXTERIOR PAINT SCHEDULE

- A. General: Provide the following Paint systems for the various substrates, as indicated.
  1. **METAL (Aluminum)**
    - a. Latex Systems
      - (1) Gloss Finish
 

1st Coat:	S-W DTM Acrylic Gloss Coating, B66 Series
2nd Coat:	S-W DTM Acrylic Gloss Coating, B66 Series (10 mils wet, 4 mils dry per coat)
  2. **METAL (Galvanized)**
    - a. Latex Systems
      - (1) Gloss Finish
 

1st Coat:	S-W DTM Acrylic Primer, B66W1 Series (10 mils wet, 5 mils dry per coat)
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2nd Coat: S-W DTM Acrylic Gloss Coating, B66 Series  
3rd Coat: S-W DTM Acrylic Gloss Coating, B66 Series  
(10 mils wet, 4 mils dry per coat)

**3. METAL (Miscellaneous Iron, Ornamental Iron)**

a. Alkyd Systems  
(1) Gloss Finish

1st Coat: S-W Kem Kromik Universal Metal Primer, B50Z Series (6 mils wet, 3 mils dry)  
2nd Coat: S-W Industrial Enamel, B54Z Series  
3rd Coat: S-W Industrial Enamel, B54Z Series  
(5 mils wet, 2 mils dry per coat)

**3.7 INTERIOR PAINT SCHEDULE**

A. General: Provide the following paint systems for the various substrates, as indicated.

**1. METAL - (Galvanized)**

a. Latex Systems  
(1) Semi-Gloss Finish

1st Coat: S-W DTM Acrylic Primer, B66W1 Series  
(10 mils wet, 5 mils dry per coat)  
2nd Coat: S-W ProMar 200 Latex Semi-Gloss B31W200 Series  
3rd Coat: S-W ProMar 200 Latex Semi-Gloss B31W200 Series (4 mils wet, 1.3 mils dry per coat)

**2. METAL - (Exposed Structural Steel, Joists, Beams, Misc. & Ornamental Iron, Doors and Door Frames, Non-Galvanized Metal)**

a. Latex Systems  
(1) Semi-Gloss Finish

1st Coat: DTM Acrylic Primer/Finish, B66W1 (6 mils wet, 3 mils dry)  
2nd Coat: S-W ProMar 200 Latex Semi-Gloss B31W200 Series  
3rd Coat: S-W ProMar 200 Latex Semi-Gloss B31W200 Series (4 mils wet, 1.3 mils dry per coat)

**3. DRYWALL (Walls, Ceilings, Gypsum Board, Etc.)**

a. Latex Systems  
(1) Semi-Gloss Finish

1st Coat: S-W Preprite 200 Latex Wall Primer, B28W200 (4 mils wet, 1.2 mils dry)  
2nd Coat: S-W ProMar 200 Latex Semi-Gloss, B31W200 Series  
3rd Coat: S-W ProMar 200 Latex Semi-Gloss, B31W200 Series (4 mils wet, 1.3 mils dry per coat)

b. Epoxy System (Water Base)  
(1) Semi-Gloss Finish

- 1st Coat: S-W Preprite 200 Latex Wall Primer, B28W200 (4 mils wet, 1.2 mils dry)
- 2nd Coat: S-W Water Based Catalyzed Epoxy, B70/B60V25
- 3rd Coat: S-W Water Based Catalyzed Epoxy, B70/B60V25 (8 mils wet, 3 mils dry per coat)

- (2) Approved Manufacturer's
  - (a) Porter Paints
  - (b) Columbia Paint and Coatings

**4. DRYWALL (Behind Scheduled Wall Coverings, Tackable Wall Panels, Casework)**

- a. Latex Systems
  - (1) Semi-Gloss Finish
    - 1st Coat: S-W Preprite 200 Latex Wall Primer, B28W200 (4 mils wet, 1.2 mils dry)

**4. EXISTING WOOD: Provide the following finish systems over existing wood frames**

- a. Full-Gloss Alkyd-Enamel Finish: Two finish coats over a primer.
  - (1) Primer: Exterior wood trim primer for full-gloss alkyd enamels.
  - (2) Finish Coats: Exterior full-gloss alkyd enamel.

**END OF SECTION 09 91 00**



### ADDENDUM #3

Libbie Edwards School Remodel for the Utah School for the Deaf and Blind  
Project #08260200

- 1) All contractors shall review the attached Hazardous material surveys for asbestos and lead based paints prior to bid and construction.
- 2) There are several areas and or items that are scheduled to be demolished that are regulated by OSHA Lead in construction Standard ( 29 CFR 1926.62). The State of Utah will provide the following demolition and abatement services prior to and during construction. Refer to plan sheets AD101A and AD101B.
  - a) The ceramic tile in the men's and women's restrooms rooms 141, 143 and vestibule 142 has been identified as containing lead. The contractor shall **exclude** from their bid the demolition and disposal of the ceramic tile walls and floors, plumbing fixture removal and toilet partition removal. The contractor should include in their bid the customary preparation required for application of new finishes to these types of demolished surfaces which may include holes in the walls.
  - b) The painted window frames have been identified as containing lead and therefore The State of Utah will remove the windows and frames in a coordinated effort with the window replacement contractor. The contractor shall **exclude** window removal and disposal from their bid. The contractor will be required to submit a schedule 3 weeks prior to the window replacement which indicates location and quantity to be replaced per day. The contractor will be required to provide temporary closure of the window openings if window removal outpaces replacement. The contractor shall include all repair required for installation of the new windows and surfaces. It can be assumed for bidding purposes that exterior finishes will not be disturbed.

**ASBESTOS  
SURVEY AND ASSESSMENT**

*Utah School for the Deaf and Blind  
(Former Libbie Edward Elementary School)  
Salt Lake City, Utah*



**Prepared for:**

Robert Anderson, HAZMAT Manager  
Division of Facilities Construction & Management  
4110 State Office Building  
Salt Lake City, Utah 84114

**Prepared by:**



**ROWLAND CONSULTING, INC.**

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**HAZMAT (ASBESTOS & LEAD BASED PAINT)  
SURVEY AND ASSESSMENT**

***Utah School for the Deaf and Blind  
(Former Libbie Edward Elementary School)  
Salt Lake City, Utah***

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**HAZMAT (ASBESTOS & LEAD BASED PAINT)  
SURVEY AND ASSESSMENT**

*Utah School for the Deaf and Blind  
(Former Libbie Edward Elementary School)  
Salt Lake City, Utah*

**1.0 EXECUTIVE SUMMARY**

A survey of this facility was performed on May 8, 2009, by **ROWLAND CONSULTING, INC.** The building was visually inspected to identify building materials that might contain asbestos. Bulk samples were collected from suspect materials and analyzed to determine if they contained asbestos. All Asbestos Containing Materials (ACMs) were assessed for damage and the potential for exposure. This survey was requested by Mr. Robert J. Anderson, HAZMAT Manager, State of Utah, Division of Facilities Construction and Management.

The following table lists all ACMs that were identified in the building. Information specific to the building concerning inaccessible areas / materials and recommended response actions can be found in this report. There is important information in these sections that is not included in this executive summary. This report should be read in its entirety, including detailed information that is contained in other sections and appendices of this report.

**ACMs by Homogeneous Area**

<b>Material ID # (1)</b>	<b>Material Description</b>	<b>Location</b>	<b>Asbestos Content (2)</b>	<b>Quantity</b>	<b>Cost Estimate (3)</b>
T001	Mudded Fittings, White	East Tunnel	<0.1% C*	~ 125	\$3,125.00 @ \$25.00/fitting
T002	Pipe Insulation, Brown	East Tunnel	55% C (Paper) 1% C (Paper)	~ 140 Ft.	\$3,500.00 @ \$25.00 /Linear Ft.
M003	9" Floor Tile Brown w/Black Mastic	Hallway & Rooms 3,8,12,13,19,21, 25,26,27,30,31A,31C,34	5% C (Tile) >1% C (Mastic)	~12,300 Sq. Ft.	\$30,750.00 @\$2.50/Sq. Ft.
M004	9" Floor Tile Red w/Tan Stripe w/Black Mastic	Board Room Closet, Room 2 and Closet	>1% C (Tile) >1% C (Mastic)	~808 Sq. Ft.	\$2,020.00 @\$2.50/Sq. Ft.
M005	9" Floor Tile Red w/Tan Stripe w/Black Mastic	Room 1 (Board Room)	>1% C (Tile) >1% C (Mastic)	~777 Sq. Ft.	\$1,942.50 @\$2.50/Sq. Ft.
M006	9" Floor Tile Tan w/Brown Stripe w/Black Mastic	Auditorium	5% C (Tile) >1% C (Mastic)	2,000 Sq. Ft.	\$5,000.00 @\$2.50/Sq. Ft.

Footnotes:

1. Homogeneous Area Number (not related to building room numbers).
2. C = Chrysotile Asbestos.
3. Cost Estimates include asbestos removal costs only; abatement design and management fees and replacement costs are not included. For projects with small quantities, ask Contractors for their mobilization fee. Please refer to Section 7.0 for more details.
4. **\*Because this material is in direct contact with area T002, it is considered ACM despite the asbestos content being less than 1%.**

### ACMs by Homogeneous Area (Continued)

Material ID # <sup>(1)</sup>	Material Description	Location	Asbestos Content <sup>(2)</sup>	Quantity	Cost Estimate <sup>(3)</sup>
M007	9" Floor Tile Brown w/Red Stripe w/Black Mastic	Stage in Auditorium, Room 5 (Receiving), & Cafeteria Storage Room	>1% C (Tile) >1% C (Mastic)	~750 Sq. Ft.	\$1,875.00 @\$2.50/Sq. Ft.
M008	9" Floor Tile Brown w/Tan Streaks w/Black Mastic	Room 14 Janitors Office & Room 23 Staff Restroom Water Closet	>1% C (Tile) >1% C (Mastic)	~300 Sq. Ft.	\$750.00 @\$2.50/Sq. Ft.
M009	9" Floor Tile Lt. Brown w/Tan Stripe w/Black Mastic	Rooms 16,17,18	5% C (Tile) >1% C (Mastic)	~2,720 Sq. Ft.	\$6,800.00 @\$2.50/Sq. Ft.
M010	12" Floor Tile Tan w/Black Speck No Mastic	Rooms 17,18	>1% C (Tile)	~160 Sq. Ft.	\$400.00 @ \$2.50/Sq. Ft.
M011	9" Floor Tile Red w/Black Mastic	Room 29	15% C (Tile)	~720 Sq. Ft.	\$1,800.00 @\$2.50/Sq. Ft.
M012	9" Floor Tile Grey w/Black Mastic	Room 29	15% C (Tile)	~720 Sq. Ft.	\$1,800.00 @\$2.50/Sq. Ft.
M013	12" Floor Tile Off-White w/Tan Stripe w/Black Mastic	Gym	>1% C (Mastic)	~1,800 Sq. Ft.	\$4,500.00 @\$2.50/Sq. Ft.
M017	Roof Core Sample	Roof	55% C 10 % C	~30,000 Sq. Ft.	\$90,000.000 @\$3.00/Sq. Ft.
M018	Under Sink Coating Black	Room 2	1.2% C	1 Each	\$75.00
M019	Under Sink Coating White	Room 16	8% C	1 Each	\$75.00
M020	9" Floor Tile Tan w/Red Speck w/Black Mastic	Cafeteria	>1% C (Tile) >1% C (Mastic)	~1,728	\$4,320.00 @\$2.50/Sq. Ft.

Footnotes:

1. Homogeneous Area Number (not related to building room numbers).
2. C = Chrysotile Asbestos.
3. Cost Estimates include asbestos removal costs only; abatement design and management fees and replacement costs are not included. For projects with small quantities, ask Contractors for their mobilization fee. Please refer to Section 7.0 for more details.
4. **\*Because this material is in direct contact with area T002, it is considered ACM despite the asbestos content being less than 1%.**

# Asbestos Survey and Assessment

*Utah School for the Deaf and Blind  
(Former Libbie Edward Elementary School)  
Salt Lake City, Utah*

## 2.0 INTRODUCTION

On May 8, 2009 **ROWLAND CONSULTING, INC.** performed an asbestos survey and assessment at the Utah School for the Deaf and Blind (Former Libbie Edward Elementary School) in Salt Lake City, Utah. The purpose of this survey was to identify the existence, extent, and condition of both friable and non-friable asbestos-containing materials (ACM) within and on the facility. Bulk samples were collected from suspect materials *not* sampled during previous surveys, submitted to a laboratory, and analyzed for asbestos content. Each occurrence of ACM was assessed for damage and friability.

The following accredited and certified inspectors performed the inspection, collected the samples and made assessment:

**Jeffrey B. Rowland**

Name

Signature

Date

**Utah**

State of Accreditation

**ASB-1377**

State of Utah

Division of Air Quality

Asbestos Certification Number

**Joshua B. Rowland**

Name

Signature

Date

**Utah**

State of Accreditation

**ASB-2960**

State of Utah

Division of Air Quality

Asbestos Certification Number

### 3.0 BUILDING DESCRIPTION

**Building Identification**      **Utah School for the Deaf and Blind  
(Former Libbie Edward Elementary School)  
Salt Lake City, Utah**

Building Name.....Utah School for the Deaf and Blind  
Building Address.....3300 South 1900 East  
Salt Lake City, Utah

#### Building Construction

Building Construction Date.....Unknown  
Building Type.....Classrooms, Offices  
Building Total Sq. Ft..... Approx. 30,000 Sq. Ft.  
Structural System..... Concrete, Block, Brick  
Exterior Wall Construction..... Brick, Block  
Floor Deck Construction..... Concrete  
Roof Construction.....Flat Built Up Roof  
Floors Above Grade.....1  
Floors Below Grade..... 0

#### Interior Finishes

Floors..... Floor Tile, Concrete, Carpet  
Ceilings.....12” Ceiling Tiles, 2x4 Ceiling Tiles  
Walls..... Painted Plaster, Drywall & Block  
Attic.....None  
Crawl space.....None

#### Building Mechanical

Heating Plant.....Central Heating  
Mechanical Piping..... Hot and Cold Water Piping with Mudded  
Fittings and Joints

## **4.0 SURVEY PROCEDURES**

### **4.1 Building Surveys**

All accessible areas of the facility were visually inspected to identify suspect asbestos containing materials (ACM.) All accessible surfaces, structures, and mechanical systems within these areas were examined and all suspected ACM was touched to determine friability.

Suspect ACM was identified and assessed in homogeneous areas. A homogeneous area is defined as a single material, uniform in texture and appearance, installed at one time, and unlikely to consist of more than one type, or formulation, of material. In cases where joint compound and/or tape have been applied to wallboard (gypsum board) and cannot be visually distinguished from the wallboard, it is considered an integral part of the wallboard and in effect becomes one material forming a wall or ceiling “system.”

Each homogeneous area was given a unique material identification number. Each ID number begins with a letter: “S” for Surfacing materials, “T” for Thermal system insulation, or “M” for Miscellaneous materials. This letter is followed by a three-digit number, assigned in consecutive order. This number is used to identify the homogeneous area throughout the inspection report.

### **4.2 Bulk Sample Collection**

Bulk samples were collected from all accessible homogeneous areas of suspect ACM for subsequent laboratory analysis to determine actual asbestos content. Sampling was conducted in a manner that minimized damage to the building, did not leave any unsightly marks, and did not create a health hazard for the inspectors.

The number of samples collected from each homogeneous area generally followed the EPA AHERA regulations (40 CFR 763.86). Friable surfacing materials were sampled using the random sampling scheme given in the EPA publication 560 / 5-85-30a, titled “Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials.” Between three and seven samples were collected from friable surfacing materials, depending on the size of the homogeneous area.

### **4.3 Bulk Sample Analysis**

Bulk samples were analyzed using polarized light microscopy (PLM) and visual estimation in accordance with the EPA Interim Method for the Determination of Asbestos in Bulk Insulation Samples, EPA-600 / M4-82-020. Samples were analyzed by **DIXON INFORMATION INC.**, 78 West 2400 South, Salt Lake City, Utah.

The laboratory is accredited under the National Institute of Standards and Technology – National Voluntary Laboratory Accreditation Program (NIST-NVLAP) for bulk-asbestos sample analysis and is also accredited by the American Industrial Hygiene Association (AIHA).

Federal EPA’s NESHAP and AHERA regulations define ACM as material containing greater than 1% asbestos by weight; materials containing less than 1% asbestos are not considered regulated ACM. ***However, the OSHA ASBESTOS STANDARD considers any percentage of asbestos to be regulated and needs to be handled properly.***

Further, the NESHAP regulations state that any sample found to contain less than 10% asbestos but greater than “none detected,” by visual estimation, must be assumed to contain greater than 1% asbestos unless confirmed to be less than 1.0% asbestos by point counting analysis. Any samples found to contain asbestos in this concentration range were assumed to contain greater than 1.0% asbestos and are listed in Section 5.9 of this report. All samples that have been point counted are identified as such in the sample result tables.

The laboratories reports can be found in Appendix D of this report.

## **SURVEY RESULTS**

### **5.1 Asbestos-Containing Materials (ACMs)**

Homogeneous areas of suspect ACM are identified as being ACM if the laboratory analysis shows the material to contain any detectable asbestos, unless subsequent Point Counting analysis resulted in less than 1% asbestos being detected. Table 1 of the Executive Summary and in Appendix A lists all homogeneous areas that were found to be ACM. Each material is described by type of material, friability and visual appearance.

Friability is defined in accordance with EPA's NESHAP regulations.

“Friable ACM” is any material containing more than 1% asbestos (as determined by PLM) that, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure and also includes non-friable ACM that may become friable during building demolition.

“Non-friable ACM” is any material containing more than 1% asbestos (as determined by PLM) that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

“Category I non-friable ACM” are asbestos-containing resilient floor coverings (commonly known as vinyl asbestos tile (VAT), asphalt roofing products, packings, and gaskets).

“Category II non-friable ACM” encompasses all other non-friable ACM.

“Non-friable RACM” is used to denote thermal system insulation that is in good condition but would become friable during renovation or demolition and therefore is “regulated asbestos containing material” (RACM).

### **5.2 Non-Asbestos-Containing Materials**

Homogeneous areas of suspect ACM are identified as *non*-ACM if the laboratory analysis shows the material to contain no detectable asbestos. Table 2, located in Appendix A of this report, lists all homogeneous areas that were found to be non-ACM.

### **5.3 Bulk Sample Analytical Results**

Table 3, located in Appendix A of this report, lists all of the bulk samples in order by sample number, that were collected from homogeneous areas of suspect ACM, along with the laboratory analytical results. Each sample was given a unique sample number. There may be more than one sample number for the same homogeneous area of suspect ACM. The homogeneous areas of suspect ACM are identified on this table by their material identification numbers. The sample location listed on this table provides a brief, but specific, description of the location where the sample was collected. This is different

than the homogeneous area location provided on Tables 1 and 2. Table 4 is the same as Table 3 except the entries have been sorted by homogeneous area number.

#### **5.4 Damage and Hazard Assessment**

Each homogeneous area of ACM has been assessed for existing damage, accessibility, and potential for future damage, and this information is presented in Table 5, located in Appendix A of this report. This table also lists the substrate present beneath each homogeneous area of ACM.

Each homogeneous area of friable ACM and asbestos-containing building material (ACBM) was classified into one of the following seven categories, as specified in EPA's AHERA regulations (40 CFR 763.88):

- (1) Damaged or significantly damaged thermal system insulation ACM.
- (2) Damaged friable surfacing ACM.
- (3) Significantly damaged friable surfacing ACM.
- (4) Damaged or significantly damaged friable miscellaneous ACM.
- (5) ACBM with potential for damage.
- (6) ACBM with potential for significant damage.
- (7) Any remaining friable ACBM or friable suspected ACBM.
- (X) Not Applicable (material is non-friable surfacing or miscellaneous material).

The damage categories are defined as follows:

“Undamaged” means the material had no visible damage, or extremely minor damage or surface marring (i.e., a room full of floor tile with only two or three small corners chipped off on the tile).

“Damaged” means the material had visible damage evenly distributed over less than 10% of its surface, or localized over less than 25% of its surface.

“Significantly Damaged” means the material had visible damage that is evenly distributed over 10% or more of its surface, or localized over 25% or more if its surface.

Each homogeneous area of ACM was evaluated for accessibility to the building occupants and the general public, assuming the building was fully occupied, using the following assessment categories.

“Inaccessible” means the material was located in an area that people had no reason to enter and could not access without special measures. One example would be the area above a solid ceiling.

“Rarely Accessed” identifies a material that was in a location that could be accessed but wasn’t unless there was a specific need. An example would be a pipe tunnel. Another example would be a high ceiling that is out of reach and not subject to any specific disturbance.

“Periodic Access” identifies a material that was in a location that was accessible, was not occupied full time, but was accessed on a routine basis. An example would be a mechanical room or boiler room.

“Continuous Access” identifies a material that was in a location that was occupied full time and was within reach of the occupants, or was frequently subject to direct disturbance. Examples would be exposed floor tile or a normal height ceiling.

## **5.5 Hazard Ranking**

A hazard ranking has been determined for every ACM, in each functional space (room), and is listed in Table 7, Appendix A. The Hazard Rank is derived from the material's current condition and potential for future disturbance. Table 7 also presents material description, quantity, and estimated abatement cost.

The EPA Management Planner hazard assessment process used here produces seven Hazard Ranks. **The rankings of potential hazard range from 1, most hazardous, to 7, least hazardous, and are used to determine abatement priority.** The highest ranking is reserved for ACM that is "significantly damaged." Hazard rankings 2 - 4 reflect ACM that is "damaged" (slight damage is the term used in Table 7), with a ranking of 2 indicating "potential for significant damage," and a ranking of 3 indicating a "potential for damage." Hazard rankings of 5 to 7 are reserved for materials currently in good condition, but with a range of moderate to low in the likelihood for future disturbance.

Note that these seven rankings are different from, and should not be confused with, the seven AHERA categories of damage and potential damage described in Section 5.4, above, and listed in Table 5.

### **5.6 Homogeneous Areas with Special Considerations**

**NONE**

### **5.7 Suspect Materials Presumed to be Asbestos-Containing Materials without Laboratory Analysis**

**NONE**

### **5.8 Inaccessible Areas**

**NONE**

### **5.9 Material(s) assumed to contain >1.0% asbestos without subsequent TEM or Point Count Analysis**

**NONE**

## 6.0 RESPONSE ACTION COMMENTS

### 6.1 EPA Requirements

Asbestos is regulated as a hazardous air pollutant by the Environmental Protection Agency (EPA) under the authority of the Clean Air Act. The asbestos regulations are included in the National Emissions Standards for Hazardous Air Pollutants (NESHAP) and referenced as 40 CFR 61, Subpart M. ACMs identified in this report are subject to those regulations. Those regulations, and state and local regulations, should be carefully examined prior to renovation, demolition, cleanup, or any other activity which could disturb the ACMs, to ensure that all activities are in compliance with applicable requirements.

ACM is defined by the EPA, as any material containing greater than one percent of asbestos. ACMs are categorized as being either friable or non-friable. Friable ACMs are those materials that can be easily crumbled, pulverized, or otherwise broken up using hand or finger pressure when dry, and are materials considered more likely to produce airborne asbestos fibers. Non-friable ACMs are materials that do not meet the above test, and are considered less likely to produce airborne asbestos fibers. Not all ACMs are regulated under NESHAP. Regulated ACM (RACM) means (a) Friable asbestos material, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of regulated demolition or renovation operations. Regulated demolition and renovation operations are those where the quantity of ACM affected is 260 linear feet or more on pipes, 160 square feet or more on other components, or 35 cubic feet or more in volume. There are certain notification requirements for demolition projects involving less than the above quantities.

Briefly, EPA requires that RACM be removed from facilities scheduled for demolition or renovation before any activity begins that would break up, dislodge, or similarly disturb the materials or preclude access to the materials for subsequent removal. Category I non-friable ACM that is not in poor condition and is not friable does not have to be removed prior to demolition of a facility. **However, these materials are exempt from mandatory removal only during demolition, not renovation. Removal is mandated when renovation activities are expected to disturb these ACMs and render them friable.** Category II non-friable ACM also does not have to be removed prior to demolition if the probability is low that the material will become crumbled, pulverized, or reduced to powder (made friable) during demolition. However, state regulations may require the removal of these materials. Additionally, Category I non-friable ACM that has not become crumbled, pulverized, or reduced to powder during demolition activities may be disposed of as ordinary construction waste.

In any situation where ACM remains in a building, it should be managed under a comprehensive operations and maintenance program (O&M). The procedures and

guidelines described in an O&M program should be followed whenever building maintenance activities may disturb any ACMs present in the building.

## **6.2 Renovation Options**

Some ACMs may remain in place during building renovations, as long as they are *not disturbed and/or damaged.*

## 7.0 COST ESTIMATES

A breakdown of the estimated removal costs by homogeneous area can be found in Table 6, Appendix A. These cost estimates are provided for use in long-term budgeting and planning only, and do not have a level of accuracy sufficient to be used as a construction design cost estimate. The actual cost of asbestos removal is highly dependent on a number of factors such as size of the project, the required time frame for removal, the time of year the job is conducted, the regulatory climate at the time, etc., therefore, actual abatement costs could vary significantly from these estimates. Replacement costs have **not** been included in these figures.

The cost for abatement design and management services is **not** included in these figures. These additional fees can range from 15% of the estimated abatement costs for large projects to greater than 50% for very small projects. The design and management fees cover the cost of preparing plans and specifications, conducting the bidding process as well as third-party oversight during abatement.

## 8.0 LIMITATIONS AND EXCLUSIONS OF WARRANTY

This asbestos survey and assessment was performed using procedures and a level of diligence typically exercised by professional consultants performing similar services. However, ACM can be present in a structure, but not identified using ordinary investigative procedures.

No asbestos survey can completely eliminate uncertainty regarding the presence of ACM. **ROWLAND CONSULTING, INC. and RMEC ENVIRONMENTAL, INC.**'s level of diligence and investigative procedures are intended to reduce, but not eliminate, potential uncertainty regarding the presence of ACM. The procedures used for this survey attempt to establish a balance between the competing goals of limiting investigative costs, time, and building damage, and reducing the uncertainty about unknown conditions. Therefore, the determinations in this report should not be construed as a guarantee that all ACM present in the subject property has been included in this report.

This report presents **ROWLAND CONSULTING, INC. and RMEC ENVIRONMENTAL, INC.** professional determinations, which are dependent upon information obtained during performance of consulting services. **ROWLAND CONSULTING, INC. and RMEC ENVIRONMENTAL, INC.** assumes no responsibility for omissions or errors resulting from inaccurate information provided by sources outside of **ROWLAND CONSULTING, INC. and RMEC ENVIRONMENTAL, INC.**

No warranty or guarantee, expressed or implied, is made regarding the findings, conclusions, or recommendations contained in this report. The limitations presented above supersede the requirements or provisions of all other contracts or scopes of work, implied or otherwise, except those stated or acknowledged herein.

**Table 1**  
**ACMs by Homogeneous Area**

*Utah School for the Deaf and Blind*  
*(Former Libbie Edward Elementary School)*  
*Salt Lake City, Utah*

<b>Homogeneous Area Number</b>	<b>Material Description</b>	<b>Location</b>	<b>Friability</b>	<b>Asbestos Content</b>	<b>Quantity</b>
T001	Mudded Fittings, White	East Tunnel	Friable ACM	<0.1% C	~ 125
T002	Pipe Insulation, Brown	East Tunnel	Non-friable RACM	55% C (Paper) 1% C (Paper)	~ 140 Ft.
M003	9" Floor Tile Brown w/Black Mastic	Hallway & Rooms 3,8,12,13,19,21, 25,26,27,30,31A,31C,34	Category I Non-friable ACM	5% C (Tile) >1% C (Mastic)	~12,300 Sq. Ft.
M004	9" Floor Tile Red w/Tan Stripe w/Black Mastic	Board Room Closet, Room 2 and Closet	Category I Non-friable ACM	>1% C (Tile) >1% C (Mastic)	~808 Sq. Ft.
M005	9" Floor Tile Red w/Tan Stripe w/Black Mastic	Room 1 (Board Room)	Category I Non-friable ACM	>1% C (Tile) >1% C (Mastic)	~777 Sq. Ft.
M006	9" Floor Tile Tan w/Brown Stripe w/Black Mastic	Auditorium	Category I Non-friable ACM	5% C (Tile) >1% C (Mastic)	2,000 Sq. Ft.
M007	9" Floor Tile Brown w/Red Stripe w/Black Mastic	Stage in Auditorium, Room 5 (Receiving), & Cafeteria Storage Room	Category I Non-friable ACM	>1% C (Tile) >1% C (Mastic)	~750 Sq. Ft.
M008	9" Floor Tile Brown w/Tan Streaks w/Black Mastic	Room 14 Janitors Office & Room 23 Staff Restroom Water Closet	Category I Non-friable ACM	>1% C (Tile) >1% C (Mastic)	~300 Sq. Ft.
M009	9" Floor Tile Lt. Brown w/Tan Stripe w/Black Mastic	Rooms 16,17,18	Category I Non-friable ACM	5% C (Tile) >1% C (Mastic)	~2,720 Sq. Ft.
M010	12" Floor Tile Tan w/Black Speck No Mastic	Rooms 17,18	Category I Non-friable ACM	>1% C (Tile)	~160 Sq. Ft.
M011	9" Floor Tile Red w/Black Mastic	Room 29	Category I Non-friable ACM	15% C (Tile)	~720 Sq. Ft.
M012	9" Floor Tile Grey w/Black Mastic	Room 29	Category I Non-friable ACM	15% C (Tile)	~720 Sq. Ft.
M013	12" Floor Tile Off-White w/Tan Stripe w/Black Mastic	Gym	Category I Non-friable ACM	>1% C (Mastic)	~1,800 Sq. Ft.
M017	Roof Core Sample	Roof	Category I Non-friable ACM	55% C 10 % C	~30,000 Sq. Ft.
M018	Under Sink Coating Black	Room 2	Non-Friable ACM	1.2% C	1 Each
M019	Under Sink Coating White	Room 16	Non-Friable ACM	8% C	1 Each
M020	9" Floor Tile Tan w/Red Speck w/Black Mastic	Cafeteria	Category I Non-friable ACM	>1% C (Tile) >1% C (Mastic)	~1,728

**Table 2**  
**Homogeneous Areas That Do Not Contain Asbestos**

*Utah School for the Deaf and Blind*  
*(Former Libbie Edward Elementary School)*  
*Salt Lake City, Utah*

<b>Homogeneous Area Number</b>	<b>Material Description</b>	<b>Material Location</b>
M001	Attic Insulation, Gray	Attic
M002	Plaster Walls, White	Throughout Building
M014	12" Ceiling Tiles, Glued On White w/Symmetrical Pattern	Cafeteria, Hallway, Some Offices & Restrooms
M015	2x4 Ceiling Tiles, Drop-In White	Room 23 (Staff Restroom)
M016	12" Ceiling Tile, Tongue & Groove, White	All Classrooms & Most Offices
M021	Cove Base w/Mastic	Throughout Building

**Table 3**  
**Bulk Sample Analytical Results by Sample Number**

*Utah School for the Deaf and Blind*  
*(Former Libbie Edward Elementary School)*  
*Salt Lake City, Utah*

<b>Sample Number</b>	<b>Homogeneous Area Number</b>	<b>Material Sampled</b>	<b>Sample Location</b>	<b>Analytical Results</b>
01	T001	Mudded Fittings, White	Tunnel on East Side of Building	NONE DETECTED
02	T001	Mudded Fittings, White	Tunnel on East Side of Building	<0.1% C
03	T001	Mudded Fittings, White	Tunnel on East Side of Building	NONE DETECTED
04	T001	Mudded Fittings, White	Tunnel on East Side of Building	NONE DETECTED
05	T001	Mudded Fittings, White	Tunnel on East Side of Building	NONE DETECTED
06	T002	Pipe Insulation, Brown	East Tunnel	55% C (In Paper) 1% C (In Paper)
07	T002	Pipe Insulation, Brown	East Tunnel	NOT ANALYZED
08	T002	Pipe Insulation, Brown	East Tunnel	NOT ANALYZED
09	T002	Pipe Insulation, Brown	East Tunnel	NOT ANALYZED
10	T002	Pipe Insulation, Brown	East Tunnel	NOT ANALYZED
11	M001	Attic Insulation, Grey	Above Stage Storage	NONE DETECTED
12	M001	Attic Insulation, Grey	Room 12	NONE DETECTED
13	M001	Attic Insulation, Grey	Room 13	NONE DETECTED
14	M001	Attic Insulation, Grey	Room 14 (Janitors Office)	NONE DETECTED
15	M001	Attic Insulation, Grey	Room 14 (Janitors Office)	NONE DETECTED
16	M002	Plaster Walls, White	Room 21	NONE DETECTED
17	M002	Plaster Walls, White	Room 31A	NONE DETECTED
18	M002	Plaster Walls, White	Room 14 (Janitors Office)	NONE DETECTED
19	M002	Plaster Walls, White	Room 9	NONE DETECTED
20	M002	Plaster Walls, White	Room 42	NONE DETECTED

**Table 3**  
**Bulk Sample Analytical Results by Sample Number**  
*(Continued)*

<b>Sample Number</b>	<b>Homogeneous Area Number</b>	<b>Material Sampled</b>	<b>Sample Location</b>	<b>Analytical Results</b>
21	M003	9" Floor Tile Brown w/Black Mastic	Room 3	5% C (Tile) >1% C (Mastic)
22	M003	9" Floor Tile Brown w/Black Mastic	Hallway	NOT ANALYZED
23	M003	9" Floor Tile Brown w/Black Mastic	Room 8	NOT ANALYZED
24	M003	9" Floor Tile Brown w/Black Mastic	Hallway	NOT ANALYZED
25	M003	9" Floor Tile Brown w/Black Mastic	Hallway	NOT ANALYZED
26	M004	9" Floor Tile Red w/Tan Stripe w/Black Mastic	Room 1 (Boardroom) Closet	>1% C (Tile) >1% C (Mastic)
27	M004	9" Floor Tile Red w/Tan Stripe w/Black Mastic	Room 2 Closet	NOT ANALYZED
28	M004	9" Floor Tile Red w/Tan Stripe w/Black Mastic	Room 2	NOT ANALYZED
29	M004	9" Floor Tile Red w/Tan Stripe w/Black Mastic	Room 2	NOT ANALYZED
30	M004	9" Floor Tile Red w/Tan Stripe w/Black Mastic	Room 2	NOT ANALYZED
31	M005	9" Floor Tile Maroon w/Black Mastic	Room 1 (Boardroom)	>1% C (Tile) >1% C (Mastic)
32	M005	9" Floor Tile Maroon w/Black Mastic	Room 1 (Boardroom)	NOT ANALYZED
33	M005	9" Floor Tile Maroon w/Black Mastic	Room 1 (Boardroom)	NOT ANALYZED
34	M005	9" Floor Tile Maroon w/Black Mastic	Room 1 (Boardroom)	NOT ANALYZED
35	M005	9" Floor Tile Maroon w/Black Mastic	Room 1 (Boardroom)	NOT ANALYZED
36	M006	9" Floor Tile Tan w/Brown Stripe w/Black Mastic	Auditorium	5% C (Tile) >1% C (Mastic)
37	M006	9" Floor Tile Tan w/Brown Stripe w/Black Mastic	Auditorium	NOT ANALYZED
38	M006	9" Floor Tile Tan w/Brown Stripe w/Black Mastic	Auditorium	NOT ANALYZED
39	M006	9" Floor Tile Tan w/Brown Stripe w/Black Mastic	Auditorium	NOT ANALYZED
40	M006	9" Floor Tile Tan w/Brown Stripe w/Black Mastic	Auditorium	NOT ANALYZED
41	M007	9" Floor Tile Brown w/Red Stripe w/Black Mastic	Stage in Auditorium	>1% C (Tile) >1% C (Mastic)
42	M007	9" Floor Tile Brown w/Red Stripe w/Black Mastic	Stage in Auditorium	NOT ANALYZED
43	M007	9" Floor Tile Brown w/Red Stripe w/Black Mastic	Stage in Auditorium	NOT ANALYZED
44	M007	9" Floor Tile Brown w/Red Stripe w/Black Mastic	Cafeteria Storage Room	NOT ANALYZED
45	M007	9" Floor Tile Brown w/Red Stripe w/Black Mastic	Cafeteria Storage Room	NOT ANALYZED

**Table 3**  
**Bulk Sample Analytical Results by Sample Number**  
*(Continued)*

<b>Sample Number</b>	<b>Homogeneous Area Number</b>	<b>Material Sampled</b>	<b>Sample Location</b>	<b>Analytical Results</b>
46	M008	9" Floor Tile Brown w/Tan Streaks w/Black Mastic	Room 14 (Janitors Office)	>1% C (Tile) >1% C (Mastic)
47	M008	9" Floor Tile Brown w/Tan Streaks w/Black Mastic	Room 14 (Janitors Office)	NOT ANALYZED
48	M008	9" Floor Tile Brown w/Tan Streaks w/Black Mastic	Room 14 (Janitors Office)	NOT ANALYZED
49	M009	9" Floor Tile Light Brown w/Tan Stripe & Black Mastic	Room 16	5% C (Tile) >1% C (Mastic)
50	M009	9" Floor Tile Light Brown w/Tan Stripe & Black Mastic	Room 16	NOT ANALYZED
51	M009	9" Floor Tile Light Brown w/Tan Stripe & Black Mastic	Room 17	NOT ANALYZED
52	M009	9" Floor Tile Light Brown w/Tan Stripe & Black Mastic	Room 17	NOT ANALYZED
53	M009	9" Floor Tile Light Brown w/Tan Stripe & Black Mastic	Room 18	NOT ANALYZED
54	M010	12" Floor Tile Tan w/Black Speck, No Mastic	Room 17	>1% C (Tile)
55	M010	12" Floor Tile Tan w/Black Speck, No Mastic	Room 17	NOT ANALYZED
56	M010	12" Floor Tile Tan w/Black Speck, No Mastic	Room 18	NOT ANALYZED
57	M011	9" Floor Tile Red w/Black Mastic	Room 29	15% C (Tile)
58	M011	9" Floor Tile Red w/Black Mastic	Room 29	NOT ANALYZED
59	M011	9" Floor Tile Red w/Black Mastic	Room 29	NOT ANALYZED
60	M012	9" Floor Tile Grey w/Black Mastic	Room 29	15% C (Tile)
61	M012	9" Floor Tile Grey w/Black Mastic	Room 29	NOT ANALYZED
62	M012	9" Floor Tile Grey w/Black Mastic	Room 29	NOT ANALYZED
63	M013	12" Floor Tile w/Black Mastic Off-White w/Tan Stripe	Gym	>1% C (Mastic)
64	M013	12" Floor Tile w/Black Mastic Off-White w/Tan Stripe	Gym	NOT ANALYZED
65	M013	12" Floor Tile w/Black Mastic Off-White w/Tan Stripe	Gym	NOT ANALYZED
66	M014	12" Ceiling Tile, Glued On White w/Symmetrical Pattern	Cafeteria	NONE DETECTED
67	M014	12" Ceiling Tile, Glued On White w/Symmetrical Pattern	Cafeteria	NONE DETECTED
68	M014	12" Ceiling Tile, Glued On White w/Symmetrical Pattern	Hallway	NONE DETECTED
69	M014	12" Ceiling Tile, Glued On White w/Symmetrical Pattern	Hallway	NONE DETECTED
70	M014	12" Ceiling Tile, Glued On White w/Symmetrical Pattern	Hallway	NONE DETECTED

**Table 3**  
**Bulk Sample Analytical Results by Sample Number**  
*(Continued)*

<b>Sample Number</b>	<b>Homogeneous Area Number</b>	<b>Material Sampled</b>	<b>Sample Location</b>	<b>Analytical Results</b>
71	M015	2x4 Ceiling Tile, Drop In White	Room 23 (Staff Restroom)	NONE DETECTED
72	M015	2x4 Ceiling Tile, Drop In White	Room 23 (Staff Restroom)	NONE DETECTED
73	M015	2x4 Ceiling Tile, Drop In White	Room 23 (Staff Restroom)	NONE DETECTED
74	M016	12" Ceiling Tile, Tongue & Groove White	Room 12	NONE DETECTED
75	M016	12" Ceiling Tile, Tongue & Groove White	Room 12	NONE DETECTED
76	M016	12" Ceiling Tile, Tongue & Groove White	Room 12	NONE DETECTED
77	M016	12" Ceiling Tile, Tongue & Groove White	Room 13	NONE DETECTED
78	M016	12" Ceiling Tile, Tongue & Groove White	Room 13	NONE DETECTED
79	M017	Roof Core	Roof	NONE DETECTED
80	M017	Roof Core	Roof	NONE DETECTED
81	M017	Roof Core	Roof	55 % C (Felt) 10% C (Sealant)
82	M017	Roof Core	Roof	NOT ANALYZED
83	M017	Roof Core	Roof	NOT ANALYZED
84	M018	Under Sink Coating Black	Room 2	1.2 % C
85	M018	Under Sink Coating Black	Room 2	NOT ANALYZED
86	M018	Under Sink Coating Black	Room 2	NOT ANALYZED
87	M019	Under Sink Coating White	Room 16	8% C
88	M019	Under Sink Coating White	Room 16	NOT ANALYZED
89	M019	Under Sink Coating White	Room 16	NOT ANALYZED
90	M020	9" Floor Tile Tan w/Red Speck & Black Mastic	Cafeteria	>1% C (Tile) >1% C (Mastic)
91	M020	9" Floor Tile Tan w/Red Speck & Black Mastic	Cafeteria	NOT ANALYZED
92	M020	9" Floor Tile Tan w/Red Speck & Black Mastic	Cafeteria	NOT ANALYZED
93	M021	Cove Base w/Mastic	Hallway	NONE DETECTED
94	M021	Cove Base w/Mastic	Hallway	NONE DETECTED
95	M021	Cove Base w/Mastic	Hallway	NONE DETECTED
96	M021	Cove Base w/Mastic	Hallway	NONE DETECTED
97	M021	Cove Base w/Mastic	Hallway	NONE DETECTED

**Table 4**  
**Bulk Sample Analytical Results by Homogeneous Area Number**

*Utah School for the Deaf and Blind*  
*(Former Libbie Edward Elementary School)*  
*Salt Lake City, Utah*

<b>Homogeneous Area Number</b>	<b>Sample Number</b>	<b>Material Sampled</b>	<b>Sample Location</b>	<b>Analytical Results</b>
T001	01	Mudded Fittings, White	Tunnel on East Side of Building	NONE DETECTED
T001	02	Mudded Fittings, White	Tunnel on East Side of Building	<0.1% C
T001	03	Mudded Fittings, White	Tunnel on East Side of Building	NONE DETECTED
T001	04	Mudded Fittings, White	Tunnel on East Side of Building	NONE DETECTED
T001	05	Mudded Fittings, White	Tunnel on East Side of Building	NONE DETECTED
T002	06	Pipe Insulation, Brown	East Tunnel	55% C (In Paper) 1% C (In Paper)
T002	07	Pipe Insulation, Brown	East Tunnel	NOT ANALYZED
T002	08	Pipe Insulation, Brown	East Tunnel	NOT ANALYZED
T002	09	Pipe Insulation, Brown	East Tunnel	NOT ANALYZED
T002	10	Pipe Insulation, Brown	East Tunnel	NOT ANALYZED
M001	11	Attic Insulation, Grey	Above Stage Storage	NONE DETECTED
M001	12	Attic Insulation, Grey	Room 12	NONE DETECTED
M001	13	Attic Insulation, Grey	Room 13	NONE DETECTED
M001	14	Attic Insulation, Grey	Room 14 (Janitors Office)	NONE DETECTED
M001	15	Attic Insulation, Grey	Room 14 (Janitors Office)	NONE DETECTED
M002	16	Plaster Walls, White	Room 21	NONE DETECTED
M002	17	Plaster Walls, White	Room 31A	NONE DETECTED
M002	18	Plaster Walls, White	Room 14 (Janitors Office)	NONE DETECTED
M002	19	Plaster Walls, White	Room 9	NONE DETECTED
M002	20	Plaster Walls, White	Room 42	NONE DETECTED

**Table 4**  
**Bulk Sample Analytical Results by Homogeneous Area Number**  
*(Continued)*

<b>Homogeneous Area Number</b>	<b>Sample Number</b>	<b>Material Sampled</b>	<b>Sample Location</b>	<b>Analytical Results</b>
M003	21	9" Floor Tile Brown w/Black Mastic	Room 3	5% C (Tile) >1% C (Mastic)
M003	22	9" Floor Tile Brown w/Black Mastic	Hallway	NOT ANALYZED
M003	23	9" Floor Tile Brown w/Black Mastic	Room 8	NOT ANALYZED
M003	24	9" Floor Tile Brown w/Black Mastic	Hallway	NOT ANALYZED
M003	25	9" Floor Tile Brown w/Black Mastic	Hallway	NOT ANALYZED
M004	26	9" Floor Tile Red w/Tan Stripe w/Black Mastic	Room 1 (Boardroom) Closet	>1% C (Tile) >1% C (Mastic)
M004	27	9" Floor Tile Red w/Tan Stripe w/Black Mastic	Room 2 Closet	NOT ANALYZED
M004	28	9" Floor Tile Red w/Tan Stripe w/Black Mastic	Room 2	NOT ANALYZED
M004	29	9" Floor Tile Red w/Tan Stripe w/Black Mastic	Room 2	NOT ANALYZED
M004	30	9" Floor Tile Red w/Tan Stripe w/Black Mastic	Room 2	NOT ANALYZED
M005	31	9" Floor Tile Maroon w/Black Mastic	Room 1 (Boardroom)	>1% C (Tile) >1% C (Mastic)
M005	32	9" Floor Tile Maroon w/Black Mastic	Room 1 (Boardroom)	NOT ANALYZED
M005	33	9" Floor Tile Maroon w/Black Mastic	Room 1 (Boardroom)	NOT ANALYZED
M005	34	9" Floor Tile Maroon w/Black Mastic	Room 1 (Boardroom)	NOT ANALYZED
M005	35	9" Floor Tile Maroon w/Black Mastic	Room 1 (Boardroom)	NOT ANALYZED
M006	36	9" Floor Tile Tan w/Brown Stripe w/Black Mastic	Auditorium	5% C (Tile) >1% C (Mastic)
M006	37	9" Floor Tile Tan w/Brown Stripe w/Black Mastic	Auditorium	NOT ANALYZED
M006	38	9" Floor Tile Tan w/Brown Stripe w/Black Mastic	Auditorium	NOT ANALYZED
M006	39	9" Floor Tile Tan w/Brown Stripe w/Black Mastic	Auditorium	NOT ANALYZED
M006	40	9" Floor Tile Tan w/Brown Stripe w/Black Mastic	Auditorium	NOT ANALYZED
M007	41	9" Floor Tile Brown w/Red Stripe w/Black Mastic	Stage in Auditorium	>1% C (Tile) >1% C (Mastic)
M007	42	9" Floor Tile Brown w/Red Stripe w/Black Mastic	Stage in Auditorium	NOT ANALYZED
M007	43	9" Floor Tile Brown w/Red Stripe w/Black Mastic	Stage in Auditorium	NOT ANALYZED
M007	44	9" Floor Tile Brown w/Red Stripe w/Black Mastic	Cafeteria Storage Room	NOT ANALYZED
M007	45	9" Floor Tile Brown w/Red Stripe w/Black Mastic	Cafeteria Storage Room	NOT ANALYZED

**Table 4**  
**Bulk Sample Analytical Results by Homogeneous Area Number**  
*(Continued)*

<b>Homogeneous Area Number</b>	<b>Sample Number</b>	<b>Material Sampled</b>	<b>Sample Location</b>	<b>Analytical Results</b>
M008	46	9" Floor Tile Brown w/Tan Streaks w/Black Mastic	Room 14 (Janitors Office)	>1% C (Tile) >1% C (Mastic)
M008	47	9" Floor Tile Brown w/Tan Streaks w/Black Mastic	Room 14 (Janitors Office)	NOT ANALYZED
M008	48	9" Floor Tile Brown w/Tan Streaks w/Black Mastic	Room 14 (Janitors Office)	NOT ANALYZED
M009	49	9" Floor Tile Light Brown w/Tan Stripe & Black Mastic	Room 16	5% C (Tile) >1% C (Mastic)
M009	50	9" Floor Tile Light Brown w/Tan Stripe & Black Mastic	Room 16	NOT ANALYZED
M009	51	9" Floor Tile Light Brown w/Tan Stripe & Black Mastic	Room 17	NOT ANALYZED
M009	52	9" Floor Tile Light Brown w/Tan Stripe & Black Mastic	Room 17	NOT ANALYZED
M009	53	9" Floor Tile Light Brown w/Tan Stripe & Black Mastic	Room 18	NOT ANALYZED
M010	54	12" Floor Tile Tan w/Black Speck, No Mastic	Room 17	>1% C (Tile)
M010	55	12" Floor Tile Tan w/Black Speck, No Mastic	Room 17	NOT ANALYZED
M010	56	12" Floor Tile Tan w/Black Speck, No Mastic	Room 18	NOT ANALYZED
M011	57	9" Floor Tile Red w/Black Mastic	Room 29	15% C (Tile)
M011	58	9" Floor Tile Red w/Black Mastic	Room 29	NOT ANALYZED
M011	59	9" Floor Tile Red w/Black Mastic	Room 29	NOT ANALYZED
M012	60	9" Floor Tile Grey w/Black Mastic	Room 29	15% C (Tile)
M012	61	9" Floor Tile Grey w/Black Mastic	Room 29	NOT ANALYZED
M012	62	9" Floor Tile Grey w/Black Mastic	Room 29	NOT ANALYZED
M013	63	12" Floor Tile w/Black Mastic Off-White w/Tan Stripe	Gym	>1% C (Mastic)
M013	64	12" Floor Tile w/Black Mastic Off-White w/Tan Stripe	Gym	NOT ANALYZED
M013	65	12" Floor Tile w/Black Mastic Off-White w/Tan Stripe	Gym	NOT ANALYZED
M014	66	12" Ceiling Tile, Glued On White w/Symmetrical Pattern	Cafeteria	NONE DETECTED
M014	67	12" Ceiling Tile, Glued On White w/Symmetrical Pattern	Cafeteria	NONE DETECTED
M014	68	12" Ceiling Tile, Glued On White w/Symmetrical Pattern	Hallway	NONE DETECTED
M014	69	12" Ceiling Tile, Glued On White w/Symmetrical Pattern	Hallway	NONE DETECTED
M014	70	12" Ceiling Tile, Glued On White w/Symmetrical Pattern	Hallway	NONE DETECTED

**Table 4**  
**Bulk Sample Analytical Results by Homogeneous Area Number**  
*(Continued)*

<b>Homogeneous Area Number</b>	<b>Sample Number</b>	<b>Material Sampled</b>	<b>Sample Location</b>	<b>Analytical Results</b>
71	M015	2x4 Ceiling Tile, Drop In White	Room 23 (Staff Restroom)	NONE DETECTED
72	M015	2x4 Ceiling Tile, Drop In White	Room 23 (Staff Restroom)	NONE DETECTED
73	M015	2x4 Ceiling Tile, Drop In White	Room 23 (Staff Restroom)	NONE DETECTED
74	M016	12" Ceiling Tile, Tongue & Groove White	Room 12	NONE DETECTED
75	M016	12" Ceiling Tile, Tongue & Groove White	Room 12	NONE DETECTED
76	M016	12" Ceiling Tile, Tongue & Groove White	Room 12	NONE DETECTED
77	M016	12" Ceiling Tile, Tongue & Groove White	Room 13	NONE DETECTED
78	M016	12" Ceiling Tile, Tongue & Groove White	Room 13	NONE DETECTED
79	M017	Roof Core	Roof	NONE DETECTED
80	M017	Roof Core	Roof	NONE DETECTED
81	M017	Roof Core	Roof	55 % C (Felt) 10% C (Sealant)
82	M017	Roof Core	Roof	NOT ANALYZED
83	M017	Roof Core	Roof	NOT ANALYZED
84	M018	Under Sink Coating Black	Room 2	1.2 % C
85	M018	Under Sink Coating Black	Room 2	NOT ANALYZED
86	M018	Under Sink Coating Black	Room 2	NOT ANALYZED
87	M019	Under Sink Coating White	Room 16	8% C
88	M019	Under Sink Coating White	Room 16	NOT ANALYZED
89	M019	Under Sink Coating White	Room 16	NOT ANALYZED
90	M020	9" Floor Tile Tan w/Red Speck & Black Mastic	Cafeteria	>1% C (Tile) >1% C (Mastic)
91	M020	9" Floor Tile Tan w/Red Speck & Black Mastic	Cafeteria	NOT ANALYZED
92	M020	9" Floor Tile Tan w/Red Speck & Black Mastic	Cafeteria	NOT ANALYZED
93	M021	Cove Base w/Mastic	Hallway	NONE DETECTED
94	M021	Cove Base w/Mastic	Hallway	NONE DETECTED
95	M021	Cove Base w/Mastic	Hallway	NONE DETECTED
96	M021	Cove Base w/Mastic	Hallway	NONE DETECTED
97	M021	Cove Base w/Mastic	Hallway	NONE DETECTED

**Table 5**  
**Damage and Hazard Assessment by Homogeneous Area**

*Utah School for the Deaf and Blind*  
*(Former Libbie Edward Elementary School)*  
*Salt Lake City, Utah*

Area Number	Material Type	Substrate	Assessment Category	Damage	Accessibility	Disturbance Potential
T001	Mudded Fittings, White	Metal Pipe	5	Undamaged	Periodic	Low
T002	Pipe Insulation, Brown	Metal Pipe	5	Undamaged	Periodic	Low
M003	9" Floor Tile Brown w/Black Mastic	Concrete	X	Undamaged	Continuous	Low
M004	9" Floor Tile Red w/Tan Stripe w/Black Mastic	Concrete	X	Undamaged	Continuous	Low
M005	9" Floor Tile Red w/Tan Stripe w/Black Mastic	Concrete	X	Undamaged	Continuous	Low
M006	9" Floor Tile Tan w/Brown Stripe w/Black Mastic	Concrete	X	Undamaged	Continuous	Low
M007	9" Floor Tile Brown w/Red Stripe w/Black Mastic	Concrete	X	Undamaged	Continuous	Low
M008	9" Floor Tile Brown w/Tan Streaks w/Black Mastic	Concrete	X	Undamaged	Continuous	Low
M009	9" Floor Tile Lt. Brown w/Tan Stripe w/Black Mastic	Concrete	X	Undamaged	Continuous	Low
M010	12" Floor Tile Tan w/Black Speck No Mastic	Concrete	X	Undamaged	Continuous	Low
M011	9" Floor Tile Red w/Black Mastic	Concrete	X	Undamaged	Continuous	Low
M012	9" Floor Tile Grey w/Black Mastic	Concrete	X	Undamaged	Continuous	Low
M013	12" Floor Tile Off-White w/Tan Stripe w/Black Mastic	Concrete	X	Undamaged	Continuous	Low
M017	Roof Core Sample	Roof	X	Damaged	Periodic	Low
M018	Under Sink Coating Black	Metal Sink	X	Undamaged	Periodic	Low
M019	Under Sink Coating White	Metal Sink	X	Undamaged	Periodic	Low
M020	9" Floor Tile Tan w/Red Speck w/Black Mastic	Concrete	X	Undamaged	Continuous	Low

Assessment Categories:

- 1-Damaged or significantly damaged Thermal System Insulation ACM
- 2-Damaged friable surfacing ACM
- 3-Significantly damaged friable surfacing ACM
- 4-Damaged or significantly damaged friable miscellaneous ACM

- 5-ACM with potential for damage
- 6-ACM with potential for significant damage
- 7-Any remaining friable ACM or friable suspect ACM
- X-Not applicable (material is non-friable surfacing or miscellaneous)

**Table 6**  
**Estimated Abatement Costs by Homogeneous Area**

*Utah School for the Deaf and Blind  
(Former Libbie Edward Elementary School)  
Salt Lake City, Utah*

<b>Homogeneous Area Number</b>	<b>Material</b>	<b>Quantity</b>	<b>Unit Cost</b>	<b>Extended Cost</b>
T001	Mudded Fittings, White	~ 125	\$25.00/fitting	\$3,125.00
T002	Pipe Insulation, Brown	~ 140 Ft.	\$25.00 /Linear Ft.	\$3,500.00
M003	9" Floor Tile Brown w/Black Mastic	~12,300 Sq. Ft.	\$2.50/Sq. Ft.	\$30,750.00
M004	9" Floor Tile Red w/Tan Stripe w/Black Mastic	~808 Sq. Ft.	\$2.50/Sq. Ft.	\$2,020.00
M005	9" Floor Tile Red w/Tan Stripe w/Black Mastic	~777 Sq. Ft.	\$2.50/Sq. Ft.	\$1,942.50
M006	9" Floor Tile Tan w/Brown Stripe w/Black Mastic	2,000 Sq. Ft.	\$2.50/Sq. Ft.	\$5,000.00
M007	9" Floor Tile Brown w/Red Stripe w/Black Mastic	~750 Sq. Ft.	\$2.50/Sq. Ft.	\$1,875.00
M008	9" Floor Tile Brown w/Tan Streaks w/Black Mastic	~300 Sq. Ft.	\$2.50/Sq. Ft.	\$750.00
M009	9" Floor Tile Lt. Brown w/Tan Stripe w/Black Mastic	~2,720 Sq. Ft.	\$2.50/Sq. Ft.	\$6,800.00
M010	12" Floor Tile Tan w/Black Speck No Mastic	~160 Sq. Ft.	\$2.50/Sq. Ft.	\$400.00
M011	9" Floor Tile Red w/Black Mastic	~720 Sq. Ft.	\$2.50/Sq. Ft.	\$1,800.00
M012	9" Floor Tile Grey w/Black Mastic	~720 Sq. Ft.	\$2.50/Sq. Ft.	\$1,800.00
M013	12" Floor Tile Off-White w/Tan Stripe w/Black Mastic	~1,800 Sq. Ft.	\$2.50/Sq. Ft.	\$4,500.00
M017	Roof Core Sample	~30,000 Sq. Ft.	\$3.00/Sq. Ft.	\$90,000.000
M018	Under Sink Coating Black	1 Each	\$75.00	\$75.00
M019	Under Sink Coating White	1 Each	\$75.00	\$75.00
M020	9" Floor Tile Tan w/Red Speck w/Black Mastic	~1,728	\$2.50/Sq. Ft.	\$4,320.00

**Table 7**

***Material Description, Abatement Cost, Amount, Location by Functional Space, Hazardous Rank***

***Utah School for the Deaf and Blind  
(Former Libbie Edward Elementary School)  
Salt Lake City, Utah***

<b>Homogeneous Area Number</b>	<b>Material Description</b>	<b>Quantity</b>	<b>% Asbestos</b>	<b>Cost</b>	<b>Condition</b>	<b>Disturbance Potential</b>	<b>Hazardous Rank</b>
T001	Mudded Fittings, White	~ 125	<0.1% C	\$3,125.00 @ \$25.00/fitting	Fair	Moderate	3
T002	Pipe Insulation, Brown	~ 140 Ft.	55% C (Paper) 1% C (Paper)	\$3,500.00 @ \$25.00 /Linear Ft.	Fair	Moderate	3
M003	9" Floor Tile Brown w/Black Mastic	~12,300 Sq. Ft.	5% C (Tile) >1% C (Mastic)	\$30,750.00 @\$2.50/Sq. Ft.	Fair	Low	5
M004	9" Floor Tile Red w/Tan Stripe w/Black Mastic	~808 Sq. Ft.	>1% C (Tile) >1% C (Mastic)	\$2,020.00 @\$2.50/Sq. Ft.	Fair	Low	5
M005	9" Floor Tile Red w/Tan Stripe w/Black Mastic	~777 Sq. Ft.	>1% C (Tile) >1% C (Mastic)	\$1,942.50 @\$2.50/Sq. Ft.	Fair	Low	5
M006	9" Floor Tile Tan w/Brown Stripe w/Black Mastic	2,000 Sq. Ft.	5% C (Tile) >1% C (Mastic)	\$5,000.00 @\$2.50/Sq. Ft.	Fair	Low	5
M007	9" Floor Tile Brown w/Red Stripe w/Black Mastic	~750 Sq. Ft.	>1% C (Tile) >1% C (Mastic)	\$1,875.00 @\$2.50/Sq. Ft.	Fair	Low	5
M008	9" Floor Tile Brown w/Tan Streaks w/Black Mastic	~300 Sq. Ft.	>1% C (Tile) >1% C (Mastic)	\$750.00 @\$2.50/Sq. Ft.	Fair	Low	5
M009	9" Floor Tile Lt. Brown w/Tan Stripe w/Black Mastic	~2,720 Sq. Ft.	5% C (Tile) >1% C (Mastic)	\$6,800.00 @\$2.50/Sq. Ft.	Fair	Low	5

**Table 7**

***Material Description, Abatement Cost, Amount, Location by Functional Space, Hazardous Rank***  
*(Continued)*

<b>Homogeneous Area Number</b>	<b>Material Description</b>	<b>Quantity</b>	<b>% Asbestos</b>	<b>Cost</b>	<b>Condition</b>	<b>Disturbance Potential</b>	<b>Hazardous Rank</b>
M010	12" Floor Tile Tan w/Black Speck No Mastic	~160 Sq. Ft.	>1% C (Tile)	\$400.00 @ \$2.50/Sq. Ft.	Fair	Low	5
M011	9" Floor Tile Red w/Black Mastic	~720 Sq. Ft.	15% C (Tile)	\$1,800.00 @\$2.50/Sq. Ft.	Fair	Low	5
M012	9" Floor Tile Grey w/Black Mastic	~720 Sq. Ft.	15% C (Tile)	\$1,800.00 @\$2.50/Sq. Ft.	Fair	Low	5
M013	12" Floor Tile Off-White w/Tan Stripe w/Black Mastic	~1,800 Sq. Ft.	>1% C (Mastic)	\$4,500.00 @\$2.50/Sq. Ft.	Fair	Low	5
M017	Roof Core Sample	~30,000 Sq. Ft.	55% C 10 % C	\$90,000.000 @\$3.00/Sq. Ft.	Fair	Low	5
M018	Under Sink Coating Black	1 Each	1.2% C	\$75.00	Good	Low	5
M019	Under Sink Coating White	1 Each	8% C	\$75.00	Good	Low	5
M020	9" Floor Tile Tan w/Red Speck w/Black Mastic	~1,728	>1% C (Tile) >1% C (Mastic)	\$4,320.00 @\$2.50/Sq. Ft.	Fair	Low	5

# OTHER HAZARDOUS MATERIALS

*Utah School for the Deaf and Blind  
(Former Libbie Edward Elementary School)  
Salt Lake City, Utah*

Hazardous materials requiring proper removal and disposal identified at the Utah School for the Deaf and Blind are as follows:

Material	Location	Quantity	Unit Cost
Fluorescent Light Tubes	Throughout Bldg.*	1058	\$1.75/Linear Ft.
Mercury Switches	Throughout Bldg.*	32	Unknown
PCB Ballasts	Throughout Bldg.*	604	\$15 Each

**\*See Chart on Following Page For Specific Locations**

DFCM policy requires the items above to be removed and disposed of at a facility approved to accept such waste prior to demolition. The cost estimated to transport and dispose of the Fluorescent Light Tubes is approximately **\$7,406.00**. The cost estimated to transport and dispose of the PCB Ballasts is approximately **\$9,060.00**. This cost estimate is based on industry standard unit prices. The unit prices include transportation and disposal only. This estimate does not include removal, design, or management fees associated with dismantling and packaging the materials.

## Fluorescent Light Tubes and Ballasts by Room

Room Number	Number of Light Tubes	Tube Length	PCB Ballasts
2	10	4 Ft.	20
9	40	4 Ft.	0
3	40	4 Ft.	20
41	16	4 Ft.	8
21	40	4 Ft.	20
1	32	4 Ft.	32
40	6	4 Ft.	6
30	40	4 Ft.	20
(Includes 25-29)			
43	16	4 Ft.	8
38 (Auditoruim)	24	4 Ft.	12
27	48	4 Ft.	24
42	24	4 Ft.	16
34	40	4 Ft.	20
33	116	4 Ft.	58
16	30	4 Ft.	28
32	8	4 Ft.	4
15	24	4 Ft.	24
31	42	4 Ft.	26
14	16	4 Ft.	8
5	4	4 Ft.	2
13	40	4 Ft.	20
17	40	4 Ft.	20
18	40	4 Ft.	20
19	40	4 Ft.	20
11	8	4 Ft.	4
12	40	4 Ft.	20
8	40	4 Ft.	20
10	8	4 Ft.	4
Hallway	46	4 Ft.	46
22, 23, 24	2	4 Ft.	1
(Men's/Ladies Room)			
Stage	8		8
Cafeteria	112	4 Ft.	56
Kitchen	18	4 Ft.	9

**Mercury switches located in rooms: Cafeteria, 3,2,Boardroom 1, 8,9,10,11,12,13,16,17,18,19,21,25,26,27,28,29,30,31,33 (2 switches), 34, Gym, 37, Auditorium, 40 (2 switches), 42, 43**

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MICROSCOPY, ASBESTOS ANALYSIS & CONSULTING

A.I.H.A. ACCREDITED LABORATORY # 101579

NVLAP LAB CODE 101012-0

May 18, 2009

Jeff Rowland  
Rowland Consulting, Inc.  
7301 Paddington Road  
West Jordan, UT 84084

Ref: Batch # 84467, Lab # ROW8868 - ROW8964  
Received May 15, 2009  
Test report  
Salt Lake Tooele Applied Tech (Libbie Edwards)  
3300 South 1900 East  
Sampled by Josh Rowland on 5/13/09 between 10:00 AM & 1:00 PM

Dear Mr. Rowland:

Samples ROW8868 through ROW8964 have been analyzed by visual estimation based on EPA-600/M4-82-020 December 1982, and EPA/600/R-93/116 July 1993 optical microscopy test methods. Appendix "A" contains statements which an accredited laboratory must make to meet the requirements of accrediting agencies. It also contains additional information about the method of analysis. This analysis is accredited by NVLAP. Appendix "A" must be included as an essential part of this test report. The data for this report is accredited by NVLAP for laboratory number 101012-0. It does not contain data or calibrations for tests performed under the AIHA program under lab code 101579.

This report may be reproduced but all reproduction must be in full unless written approval is received from the laboratory for partial reproduction. The results of analysis are as follows:

Lab ROW8868, Field 1 Mudded Fittings White

This sample contains two types of material: The first type is cotton cloth in gray binder; the second type is 20% mineral wool in off white plaster. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 1% of the sample. The second type is 99% of the sample.

Lab ROW8869, Field 2 Mudded Fittings White

This sample contains two types of material: The first type is white cotton cloth with white paint and gray binder; the second type is **less than 0.1% chrysotile asbestos** and 20% mineral wool in gray plaster. This sample is non-homogeneous.

The first type is 1% of the sample. The second type is 99% of the sample.

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Lab ROW8870, Field 3 Mudded Fittings White

This sample contains two types of material: The first type is white cotton cloth with tan and gray binder; the second type is 20% mineral wool in off white plaster. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 1% of the sample. The second type is 99% of the sample.

Lab ROW8871, Field 4 Mudded Fittings White

This sample contains two types of material: The first type is white cotton cloth with tan and gray binder; the second type is 20% mineral wool in off white binder. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 1% of the sample. The second type is 99% of the sample.

Lab ROW8872, Field 5 Mudded Fittings White

This is 20% mineral wool in off white plaster with a trace of white paint. This sample is non-homogeneous. **Asbestos is none detected.**

Lab ROW8873, Field 6 Pipe Insulation Brown

This sample contains three types of material: The first type is white cotton cloth in gray binder; the second type is **55% chrysotile asbestos** and 15% plant fiber in tan paper with binder; the third type is **1% chrysotile asbestos** and 80% plant fiber in tan paper with binder. This sample is non-homogeneous.

The first type is 20% of the sample. The second type is 50% of the sample. The third type is 30% of the sample.

Lab ROW8874, Field 7 Pipe Insulation Brown

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8875, Field 8 Pipe Insulation Brown

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8876, Field 9 Pipe Insulation Brown

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8877, Field 10 Pipe Insulation Brown

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8878, Field 11 Attic Insulation Gray

This is gray mineral wool insulation. **Asbestos is none detected.**

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Lab ROW8879, Field 12 Attic Insulation Gray

This is gray mineral wool insulation. **Asbestos is none detected.**

Lab ROW8880, Field 13 Attic Insulation Gray

This is gray mineral wool insulation. **Asbestos is none detected.**

Lab ROW8881, Field 14 Attic Insulation Gray

This is gray mineral wool insulation. **Asbestos is none detected.**

Lab ROW8882, Field 15 Attic Insulation Gray

This is gray mineral wool insulation. **Asbestos is none detected.**

Lab ROW8883, Field 16 Wall Plaster White

This sample contains two types of material: The first type is white paint; the second type is sand and mica in off white plaster. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 5% of the sample. The second type is 95% of the sample.

Lab ROW8884, Field 17 Wall Plaster White

This sample contains two types of material: The first type is white paint; the second type is sand and mica in off white plaster. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 5% of the sample. The second type is 95% of the sample.

Lab ROW8885, Field 18 Wall Plaster White

This sample contains two types of material: The first type is white paint; the second type is less than 1% organic fiber in off white plaster with sand and mica. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 1% of the sample. The second type is 99% of the sample.

Lab ROW8886, Field 19 Wall Plaster White

This sample contains two types of material: The first type is white paint; the second type is sand and mica in off white plaster. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 1% of the sample. The second type is 99% of the sample.

Lab ROW8887, Field 20 Wall Plaster White

This sample contains two types of material: The first type is white paint; the second type is sand and mica in off white plaster. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 1% of the sample. The second type is 99% of the sample.

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Lab ROW8888, Field 21 9" Floor Tile Brown With Black Mastic

This sample contains four types of material: The first type is yellow resin mastic; the second type is white plaster; the third type is **5% chrysotile asbestos** in brown plastic and limestone tile; the fourth type is **greater than 1% chrysotile asbestos** in black tar mastic. This sample is non-homogeneous.

The first type is 2% of the sample. The second type is 8% of the sample. The third type is 89% of the sample. The fourth type is 1% of the sample.

Lab ROW8889, Field 22 9" Floor Tile Brown With Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8890, Field 23 9" Floor Tile Brown With Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8891, Field 24 9" Floor Tile Brown With Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8892, Field 25 9" Floor Tile Brown With Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8893, Field 26 9" Floor Tile Red With Tan Stripe and Black Mastic

This is **greater than 1% chrysotile asbestos** in a brown plastic and limestone tile.

**Note:** The black tar mastic contains **greater than 1% chrysotile asbestos**.

The tile is 98% of the sample. The black tar mastic is 2% of the sample.

**Note:** The morphology of the fibers in the plastic and limestone tile are consistent with chrysotile asbestos. Fiber size is too small for confirmation by dispersion staining. Transmission Electron Microscopy (TEM) is recommended for final confirmation that this is chrysotile asbestos.

Lab ROW8894, Field 27 9" Floor Tile Red With Tan Stripe and Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8895, Field 28 9" Floor Tile Red With Tan Stripe and Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8896, Field 29 9" Floor Tile Red With Tan Stripe and Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

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Lab ROW8897, Field 30 9" Floor Tile Red With Tan Stripe and Black Mastic  
According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8898, Field 31 9" Floor Tile Maroon With Brown Stripe and Black Mastic  
This sample contains three types of material: The first type is yellow resin mastic; the second type is tan plastic and limestone with **greater than 1% chrysotile asbestos**; the third type is black tar mastic with **greater than 1% chrysotile asbestos**. This sample is non-homogeneous.

The first type is 1% of the sample. The second type is 98% of the sample. The third type is 1% of the sample.

Lab ROW8899, Field 32 9" Floor Tile Maroon With Brown Stripe and Black Mastic  
According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8900, Field 33 9" Floor Tile Maroon With Brown Stripe and Black Mastic  
According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8901, Field 34 9" Floor Tile Maroon With Brown Stripe and Black Mastic  
According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8902, Field 35 9" Floor Tile Maroon With Brown Stripe and Black Mastic  
According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8903, Field 36 9" Floor Tile Tan With Brown Stripe and Black Mastic  
This is **5% chrysotile asbestos** in a brown plastic and limestone tile.

**Note:** The black tar mastic contains **greater than 1% chrysotile asbestos**.

The tile is 99% of the sample. The black tar mastic is 1% of the sample.

Lab ROW8904, Field 37 9" Floor Tile Tan With Brown Stripe and Black Mastic  
According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8905, Field 38 9" Floor Tile Tan With Brown Stripe and Black Mastic  
According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8906, Field 39 9" Floor Tile Tan With Brown Stripe and Black Mastic  
According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8907, Field 40 9" Floor Tile Tan With Brown Stripe and Black Mastic  
According to your instructions this sample was not analyzed. There is no charge for this sample.

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Lab ROW8908, Field 41 9" Floor Tile Brown With Red Stripe and Black Mastic

This is **greater than 1% chrysotile asbestos** and 1% plant fiber in a dark brown plastic and limestone tile.

**Note:** The black tar mastic contains **greater than 1% chrysotile asbestos**.

The tile is 99% of the sample. The black tar mastic is 1% of the sample.

Lab ROW8909, Field 42 9" Floor Tile Brown With Red Stripe and Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8910, Field 43 9" Floor Tile Brown With Red Stripe and Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8911, Field 44 9" Floor Tile Brown With Red Stripe and Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8912, Field 45 9" Floor Tile Brown With Red Stripe and Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8913, Field 46 9" Floor Tile Brown With Tan Streaks and Black Mastic

This is **greater than 1% chrysotile asbestos** and 3% plant fiber in a dark brown plastic and limestone tile.

**Note:** The black tar mastic contains **greater than 1% chrysotile asbestos**.

The tile is 99% of the sample. The black tar mastic is 1% of the sample.

**Note:** The morphology of the fibers in the plastic and limestone tile are consistent with chrysotile asbestos. Fiber size is too small for confirmation by dispersion staining. Transmission Electron Microscopy (TEM) is recommended for final confirmation that this is chrysotile asbestos.

Lab ROW8914, Field 47 9" Floor Tile Brown With Tan Streaks and Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8915, Field 48 9" Floor Tile Brown With Tan Streaks and Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

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Lab ROW8916, Field 49 9" Floor Tile Lite Brown With Tan Stripe and Black Mastic

This sample contains three types of material: The first type is yellow resin mastic; the second type is **5% chrysotile asbestos** in tan plastic and limestone tile; the third type is **greater than 1% chrysotile asbestos** in black tar mastic. This sample is non-homogeneous.

The first type is 1% of the sample. The second type is 98% of the sample. The third type is 1% of the sample.

**Note:** The morphology of the fibers in the plastic and limestone tile are consistent with chrysotile asbestos. Fiber size is too small for confirmation by dispersion staining. Transmission Electron Microscopy (TEM) is recommended for final confirmation that this is chrysotile asbestos.

Lab ROW8917, Field 50 9" Floor Tile Lite Brown With Tan Stripe and Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8918, Field 51 9" Floor Tile Lite Brown With Tan Stripe and Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8919, Field 52 9" Floor Tile Lite Brown With Tan Stripe and Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8920, Field 53 9" Floor Tile Lite Brown With Tan Stripe and Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8921, Field 54 12" Floor Tile Tan With Black Speck

This is **greater than 1% chrysotile asbestos** in a tan plastic and limestone tile.

**Note:** **Asbestos is none detected** in the yellow resin mastic.

The tile is 99% of the sample. The mastic is 1% of the sample.

**Note:** The morphology of the fibers in the plastic and limestone tile are consistent with chrysotile asbestos. Fiber size is too small for confirmation by dispersion staining. Transmission Electron Microscopy (TEM) is recommended for final confirmation that this is chrysotile asbestos.

Lab ROW8922, Field 55 12" Floor Tile Tan With Black Speck

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8923, Field 56 12" Floor Tile Tan With Black Speck

According to your instructions this sample was not analyzed. There is no charge for this sample.

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Lab ROW8924, Field 57 9" Floor Tile Red With Black Mastic

This sample contains four types of material: The first type is black tar; the second type is **15% chrysotile asbestos** in red plastic and limestone tile; the third type is gray plaster; the fourth type is yellow resin mastic. This sample is non-homogeneous.

The first type is 1% of the sample. The second type is 96% of the sample. The third type is 1% of the sample. The fourth type is 2% of the sample.

Lab ROW8925, Field 58 9" Floor Tile Red With Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8926, Field 59 9" Floor Tile Red With Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8927, Field 60 9" Floor Tile Gray With Black Mastic

This sample contains four types of material: The first type is yellow resin mastic; the second type is gray and white plaster; the third type is **15% chrysotile asbestos** in a gray plastic and limestone tile; the fourth type is black tar. This sample is non-homogeneous.

The first type is 1% of the sample. The second type is 2% of the sample. The third type is 96% of the sample. The fourth type is 1% of the sample.

Lab ROW8928, Field 61 9" Floor Tile Gray With Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8929, Field 62 9" Floor Tile Gray With Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8930, Field 63 12" Floor Tile Off White With Tan Stripe and Black Mastic

This sample contains three types of material: The first type is tan and off white plastic and limestone tile; the second type is yellow resin mastic; the third type is **greater than 1% chrysotile asbestos** in black tar mastic. This sample is non-homogeneous.

The first type is 98% of the sample. The second type is 1% of the sample. The third type is 1% of the sample.

Lab ROW8931, Field 64 12" Floor Tile Off White With Tan Stripe and Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8932, Field 65 12" Floor Tile Off White With Tan Stripe and Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

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Lab ROW8933, Field 66 12" Glued on Ceiling Tiles White With Symmetrical Pattern With Glue

This sample contains three types of material: The first type is brown compressed wood fiber in binder with a white coating on one side; the second type is brown resin mastic; the third type is sandy white plaster with mica. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 40% of the sample. The second type is 35% of the sample. The third type is 25% of the sample.

Lab ROW8934, Field 67 12" Glued on Ceiling Tiles White With Symmetrical Pattern With Glue

This sample contains three types of material: The first type is brown compressed wood fiber in binder with a white coating on one side; the second type is brown resin mastic; the third type is sand and mica in white plaster. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 30% of the sample. The second type is 20% of the sample. The third type is 50% of the sample.

Lab ROW8935, Field 68 12" Glued on Ceiling Tiles White With Symmetrical Pattern With Glue

This sample contains three types of material: The first type is brown compressed wood fiber in binder with a white coating on one side; the second type is brown resin mastic; the third type is sand and mica in white plaster. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 30% of the sample. The second type is 35% of the sample. The third type is 35% of the sample.

Lab ROW8936, Field 69 12" Glued on Ceiling Tiles White With Symmetrical Pattern With Glue

This sample contains three types of material: The first type is brown compressed wood fiber in binder with a white coating on one side; the second type is brown resin mastic; the third type is sand and mica in white plaster. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 30% of the sample. The second type is 40% of the sample. The third type is 30% of the sample.

Lab ROW8937, Field 70 12" Glued on Ceiling Tiles White With Symmetrical Pattern With Glue

This sample contains three types of material: The first type is brown compressed wood fiber in binder with a white coating on one side; the second type is brown resin mastic; the third type is sand and mica in white plaster. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 35% of the sample. The second type is 35% of the sample. The third type is 30% of the sample.

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Lab ROW8938, Field 71 2 X 4 Drop In Ceiling Tile White

This is a light gray sample with perlite, 15% plant fiber, and 45% mineral wool in resin binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Lab ROW8939, Field 72 2 X 4 Drop In Ceiling Tile White

This is a light gray sample with perlite, 15% plant fiber, and 40% mineral wool in resin binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Lab ROW8940, Field 73 2 X 4 Drop In Ceiling Tile White

This is a light gray sample with perlite, 15% plant fiber, and 40% mineral wool in resin binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Lab ROW8941, Field 74 12" Tongue and Groove Ceiling Tile White

This is brown compressed wood fiber in binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Lab ROW8942, Field 75 12" Tongue and Groove Ceiling Tile White

This is brown compressed wood fiber in binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Lab ROW8943, Field 76 12" Tongue and Groove Ceiling Tile White

This is brown compressed wood fiber in binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Lab ROW8944, Field 77 12" Tongue and Groove Ceiling Tile White

This is brown compressed wood fiber in binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

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Lab ROW8945, Field 78 12" Tongue and Groove Ceiling Tile White

This is brown compressed wood fiber in binder with a white coating on one side. **Asbestos is none detected.**

The white coating is 1% of the sample.

Lab ROW8946, Field 79 Roof Core Sample

This sample contains three types of material: The first type is tan plant fiber paper; the second type is 60% plant fiber in black tar felt layers; the third type is less than 1% fiberglass in black tar layers. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 1% of the sample. The second type is 60% of the sample. The third type is 39% of the sample.

Lab ROW8947, Field 80 Roof Core Sample

This sample contains four types of material: The first type is pea gravel; the second type is 60% plant fiber in black tar layers; the third type is less than 1% fiberglass in black tar layers; the fourth type is brown wood. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 15% of the sample. The second type is 45% of the sample. The third type is 35% of the sample. The fourth type is 5% of the sample.

Lab ROW8948, Field 81 Roof Core Sample

This sample contains five types of material: The first type is **55% chrysotile asbestos**, 5% plant fiber and 1% fiberglass in black tar felt; the second type is **10% chrysotile asbestos** in black tar sealant with limestone; the third type is 60% plant fiber in black tar felt layers; the fourth type is less than 1% fiberglass in black tar layers; the fifth type is brown plant fiber paper. This sample is non-homogeneous.

The first type is 12% of the sample. The second type is 25% of the sample. The third type is 35% of the sample. The fourth type is 25% of the sample. The fifth type is 3% of the sample.

Lab ROW8949, Field 82 Roof Core Sample

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8950, Field 83 Roof Core Sample

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8951, Field 84 Under Sink Coating Black

This is **1.2% chrysotile asbestos** in black binder with limestone.

Batch # 84467

Lab # ROW8868 - ROW8964

Page 12 of 13

Lab ROW8952, Field 85 Under Sink Coating Black

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8953, Field 86 Under Sink Coating Black

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8954, Field 87 Under Sink Coating White

This is **8% chrysotile asbestos** in light gray binder with mica and limestone.

Lab ROW8955, Field 88 Under Sink Coating White

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8956, Field 89 Under Sink Coating White

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8957, Field 90 9" Floor Tile Tan With Red Speck and Black Mastic

This is **greater than 1% chrysotile asbestos** in a tan plastic and limestone tile.

**Note:** The black tar mastic contains **greater than 1% chrysotile asbestos**.

The tile is 99% of the sample. The black tar mastic is 1% of the sample.

**Note:** The morphology of the fibers in the plastic and limestone tile are consistent with chrysotile asbestos. Fiber size is too small for confirmation by dispersion staining. Transmission Electron Microscopy (TEM) is recommended for final confirmation that this is chrysotile asbestos.

Lab ROW8958, Field 91 9" Floor Tile Tan With Red Speck and Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8959, Field 92 9" Floor Tile Tan With Red Speck and Black Mastic

According to your instructions this sample was not analyzed. There is no charge for this sample.

Lab ROW8960, Field 93 Black Mastic on Cove Base

This sample contains two types of material: The first type is black tar; the second type is white sandy plaster. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 4% of the sample. The second type is 96% of the sample.

Batch # 84467  
Lab #ROW8868 - ROW8964  
Page 13 of 13

Lab ROW8961, Field 94 Black Mastic on Cove Base

This sample contains two types of material: The first type is black binder; the second type is sand and mica in white plaster. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 5% of the sample. The second type is 95% of the sample.

Lab ROW8962, Field 95 Black Mastic on Cove Base

This sample contains two types of material: The first type is black binder; the second type is sand and mica in white plaster. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 5% of the sample. The second type is 95% of the sample.

Lab ROW8963, Field 96 Black Mastic on Cove Base

This sample contains two types of material: The first type is black binder; the second type is sand and mica in white plaster. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 5% of the sample. The second type is 95% of the sample.

Lab ROW8964, Field 97 Black Mastic on Cove Base

This sample contains two types of material: The first type is black binder; the second type is white plaster with sand and mica. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 5% of the sample. The second type is 95% of the sample.

In order to be sure reagents and tools used for analysis are not contaminated with asbestos, blanks are tested. Asbestos was none detected in the blanks tested with this bulk sample set.

Very truly yours,



Steve H. Dixon, President

Analyst: Steve H. Dixon  Date Analyzed: May 17, 2009

# RUSH

Dixon Information Inc.  
78 West 2400 South  
South Salt Lake, Utah 84115  
Phone: 1-801-486-0800 Fax: 1-801-486-0849

# RUSH

### BULK ANALYTICAL REQUEST FORM

Turnaround Time - Circle One

Batch Number 84467

Rush (24 hours \$25.00 per sample)

Non-rush (5 Working days \$17.00 per sample)

Name of location sample was taken at Salt Lake Tooele Applied Tech (Libbie Edwards)  
Street address sample was taken at 3300 S. 1900 E.  
Sampled by: Josh Rowland

Report to be sent to: Rowland  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
E-mail: \_\_\_\_\_

Billing to be sent to: Rowland  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
PO #: \_\_\_\_\_

Field #	Description of Sample	Samples Collected		Lab #
		Date	Time	
1	mudded Fittings white	5-15-09	10:00 AM	8868
2	" "			8869
3	" "			8870
4	" "			8871
5	" "			8872
6	Pipe Insulation Brown			8873
7	" "			8874
8	" "			8875
9	" "			8876
10	" "			8877

### Chain of Custody

Submission of asbestos samples for analysis and/or signing a chain of custody is the equivalent of submission of a purchase order and constitutes an agreement to pay for services provided at Dixon Information Incorporated standard schedule of fees for services.

Submitted by: Josh Rowland  
Received by Lab: Dustin Byrnes  
Received by Analyst: \_\_\_\_\_  
Returned by Lab: \_\_\_\_\_

Date: 5-15-09 Time: 3:00 P.M.  
Date: 5-15-09 Time: 1500  
Date: \_\_\_\_\_ Time: \_\_\_\_\_  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

Stop / 60

**RUSH**

Dixon Information Inc.  
78 West 2400 South  
South Salt Lake, Utah 84115  
Phone: 1-801-486-0800 Fax: 1-801-486-0849

**RUSH**

**BULK ANALYTICAL REQUEST FORM**

Turnaround Time - Circle One

Batch Number 88467

Rush (24 hours \$25.00 per sample)

Non-rush (5 Working days \$17.00 per sample)

Name of location sample was taken at Salt Lake Tooele Applied Tech (Libbie Edwards)  
Street address sample was taken at 3300 S. 1900 E.  
Sampled by: Josh Rowland

Report to be sent to: Rowland  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
E-mail: \_\_\_\_\_

Billing to be sent to: Rowland  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
PO #: \_\_\_\_\_

Field #	Description of Sample	Samples Collected		Lab #
		Date	Time	
11	Attic Insulation Grey	5-13-09	10:00 AM	8878
12	" "			8879
13	" "			8880
14	" "			8881
15	" "			8882
16	Wall Plaster white			8883
17	" "			8884
18	" "			8885
19	" "			8886
20	" "			8887

**Chain of Custody**

Submission of asbestos samples for analysis and/or signing a chain of custody is the equivalent of submission of a purchase order and constitutes an agreement to pay for services provided at Dixon Information Incorporated standard schedule of fees for services.

Submitted by: Josh Rowland  
Received by Lab: [Signature]  
Received by Analyst: [Signature]  
Returned by Lab: \_\_\_\_\_

Date: 5-15-09 Time: 3:00 P.M.  
Date: 5-15-9 Time: 1500  
Date: 5-15-09 Time: 1800  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

Stop / Go

**RUSH**

**Dixon Information Inc.**  
78 West 2400 South  
South Salt Lake, Utah 84115  
Phone: 1-801-486-0800 Fax: 1-801-486-0849

**RUSH**

**BULK ANALYTICAL REQUEST FORM**

Turnaround Time - Circle One

Batch Number 84467

Rush (24 hours \$25.00 per sample)

Non-rush (5 Working days \$17.00 per sample)

Name of location sample was taken at Salt Lake Tooele Applied Tech (Lubbie Edwards)  
Street address sample was taken at 3300 S. 1900 E.  
Sampled by: Josh Rowland

Report to be sent to: Rowland  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
E-mail: \_\_\_\_\_

Billing to be sent to: Rowland  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
PO #: \_\_\_\_\_

Field #	Description of Sample	Samples Collected		Lab #
		Date	Time	
21	9" Floor tile Brown w/ Black mastic	10-13-09	01:00 AM	8888
22	" "	" "	" "	8889
23	" "	" "	" "	8890
24	" "	" "	" "	8891
25	" "	" "	" "	8892
26	9" Floor tile Red w/ tan stripe and Black mastic	" "	" "	8893
27	" "	" "	" "	8894
28	" "	" "	" "	8895
29	" "	" "	" "	8896
30	" "	" "	" "	8897

**Chain of Custody**

Submission of asbestos samples for analysis and/or signing a chain of custody is the equivalent of submission of a purchase order and constitutes an agreement to pay for services provided at Dixon Information Incorporated standard schedule of fees for services.

Submitted by: Josh Rowland  
Received by Lab: [Signature]  
Received by Analyst: [Signature]  
Returned by Lab: \_\_\_\_\_

Date: 5-15-09 Time: 3:00 P.M.  
Date: 5-15-09 Time: 1500  
Date: 5-15-09 Time: 1800  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

STOP/GO

Dixon Information Inc.  
78 West 2400 South  
South Salt Lake, Utah 84115  
Phone: 1-801-486-0800 Fax: 1-801-486-0849

**RUSH**

**RUSH**

**BULK ANALYTICAL REQUEST FORM**

Turnaround Time - Circle One

Batch Number 84467

Rush (24 hours \$25.00 per sample)

Non-rush (5 Working days \$17.00 per sample)

Name of location sample was taken at Salt Lake Tooele Applied Tech (Libbie Edwards)  
Street address sample was taken at 3300 S. 1900 E.  
Sampled by: Josh Rowland

Report to be sent to: Rowland  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
E-mail: \_\_\_\_\_

Billing to be sent to: Rowland  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
PO #: \_\_\_\_\_

Field #	Description of Sample	Samples Collected		Lab #
		Date	Time	
31	9" Floor tile maroon w/ Brown stripe and Black	10/13/09	11:00	8898
32	" " " " mastic			8899
33	" " " "			8900
34	" " " "			8901
35	" " " "			8902
36	9" Floor tile tan w/ Brown stripe and Black			8903
37	" " " " mastic			8904
38	" " " "			8905
39	" " " "			8906
40	" " " "			8907

**Chain of Custody**

Submission of asbestos samples for analysis and/or signing a chain of custody is the equivalent of submission of a purchase order and constitutes an agreement to pay for services provided at Dixon Information Incorporated standard schedule of fees for services.

Submitted by: Josh Rowland  
Received by Lab: Wynn Bunn  
Received by Analyst: [Signature]  
Returned by Lab: \_\_\_\_\_

Date: 5-15-09 Time: 3:00 P.M.  
Date: 5-15-09 Time: 1500  
Date: 5-15-09 Time: 1800  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

STOP/GO

**RUSH**

Dixon Information Inc.  
78 West 2400 South  
South Salt Lake, Utah 84115  
Phone: 1-801-486-0800 Fax: 1-801-486-0849

**RUSH**

**BULK ANALYTICAL REQUEST FORM**

Turnaround Time - Circle One

Batch Number 84467

Rush (24 hours \$25.00 per sample)

Non-rush (5 Working days \$17.00 per sample)

Name of location sample was taken at Salt Lake Tooele Applied Tech (Libbie Edwards)  
Street address sample was taken at 3300 S. 1900 E.  
Sampled by: Josh Rowland

Report to be sent to: Rowland  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
E-mail: \_\_\_\_\_

Billing to be sent to: Rowland  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
PO #: \_\_\_\_\_

Field #	Description of Sample	Samples Collected		Lab #
		Date	Time	
41	9" Floor tile Brown/Red stripe and black mastic	10-13-09	11:00	8908
42	" " " "			8909
43	" " " "			8910
44	" " " "			8911
45	" " " "			8912
46	9" Floor tile Brown w/ tan streaks and			8913
47	Black mastic " " "			8914
48	" " " " "			8915
				8916
				8917

**Chain of Custody**

Submission of asbestos samples for analysis and/or signing a chain of custody is the equivalent of submission of a purchase order and constitutes an agreement to pay for services provided at Dixon Information Incorporated standard schedule of fees for services.

Submitted by: Josh Rowland  
Received by Lab: [Signature]  
Received by Analyst: [Signature]  
Returned by Lab: \_\_\_\_\_

Date: 5-15-09 Time: 3:00 P.M.  
Date: 5-15-09 Time: 1500  
Date: 5-15-09 Time: 1800  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

STOP / 60



# RUSH

Dixon Information Inc.  
78 West 2400 South  
South Salt Lake, Utah 84115  
Phone: 1-801-486-0800 Fax: 1-801-486-0849

# RUSH

### BULK ANALYTICAL REQUEST FORM

Turnaround Time - Circle One

Batch Number 84467

Rush (24 hours \$25.00 per sample)

Non-rush (5 Working days \$17.00 per sample)

Name of location sample was taken at Salt Lake Tooele Applied Tech (Libbie Edwards)  
Street address sample was taken at 3300 S. 1900 E.  
Sampled by: Josh Rowland

Report to be sent to: Rowland  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
E-mail: \_\_\_\_\_

Billing to be sent to: Rowland  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
PO #: \_\_\_\_\_

Field #	Description of Sample	Samples Collected		Lab #
		Date	Time	
60	9" Floor tile Gray w/ Black mastic	10-13-09	11:00 AM	<del>8928</del> 8927
61	" " " "			<del>29</del> 8928
62	" " " "			<del>30</del> 8929
63	12" Floor tile off white w/ tan stripe			<del>31</del> 8930
64	" " " and black mastic			<del>32</del> 8931
65	" " " "			<del>33</del> 8932
66	12" Glued on ceiling tiles white w/ symmetrical			<del>34</del> 8933
67	pattern " w/ blue " "			<del>35</del> 8934
68	" " " "			<del>36</del> 8935
69	" " " "			<del>37</del> 8936
70	" " " "			8937

#### Chain of Custody

Submission of asbestos samples for analysis and/or signing a chain of custody is the equivalent of submission of a purchase order and constitutes an agreement to pay for services provided at Dixon Information Incorporated standard schedule of fees for services.

Submitted by: Josh Rowland  
Received by Lab: [Signature]  
Received by Analyst: [Signature]  
Returned by Lab: \_\_\_\_\_

Date: 5-15-09 Time: 3:00 P.M.  
Date: 5-15-09 Time: 1500  
Date: 5-15-09 Time: 1800  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

Step 60

# RUSH

Dixon Information Inc.  
78 West 2400 South  
South Salt Lake, Utah 84115  
Phone: 1-801-486-0800 Fax: 1-801-486-0849

# RUSH

### BULK ANALYTICAL REQUEST FORM

Turnaround Time - Circle One

Batch Number 84467

Rush (24 hours \$25.00 per sample)

Non-rush (5 Working days \$17.00 per sample)

Name of location sample was taken at Salt Lake Tooele Applied Tech (Libbie Edwards)  
Street address sample was taken at 3300 S. 1900 E.  
Sampled by: Josh Rowland

Report to be sent to: Rowland  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
E-mail: \_\_\_\_\_

Billing to be sent to: Rowland  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
PO #: \_\_\_\_\_

Field #	Description of Sample	Samples Collected		Lab #
		Date	Time	
71	2x4 Drop in ceiling tile white	10-13-09	11:00	89 38
72	" " " "			89 39
73	" " " "			89 40
74	12" Tongue and Groove ceiling tile white			89 41
75	" " " "			89 42
76	" " " "			89 43
77	" " " "			89 44
78	" " " "			89 45

### Chain of Custody

Submission of asbestos samples for analysis and/or signing a chain of custody is the equivalent of submission of a purchase order and constitutes an agreement to pay for services provided at Dixon Information Incorporated standard schedule of fees for services.

Submitted by: Josh Rowland  
Received by Lab: [Signature]  
Received by Analyst: [Signature]  
Returned by Lab: \_\_\_\_\_

Date: 5-15-09 Time: 3:00 P.M.  
Date: 5-15-09 Time: 1500  
Date: 5-15-09 Time: 1800  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

stop 160

# RUSH

Dixon Information Inc.  
78 West 2400 South  
South Salt Lake, Utah 84115  
Phone: 1-801-486-0800 Fax: 1-801-486-0849

# RUSH

### BULK ANALYTICAL REQUEST FORM

Turnaround Time - Circle One

Batch Number 84467

Rush (24 hours \$25.00 per sample)

Non-rush (5 Working days \$17.00 per sample)

Name of location sample was taken at Salt Lake Tooele Applied Tech (Libbie Edwards)  
Street address sample was taken at 3300 S. 1900 E.  
Sampled by: Josh Rowland

Report to be sent to: Rowland  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
E-mail: \_\_\_\_\_

Billing to be sent to: Rowland  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
PO #: \_\_\_\_\_

Field #	Description of Sample	Samples Collected		Lab #
		Date	Time	
79	Roof Core Sample	10-13-09	11:00	89 46
80	" "			89 47
81	" "			89 48
82	" "			89 49
83	" "			89 50
84	under sink coating Black			89 51
85	" "			89 52
86	" "			89 53
87	under sink coating white			89 54
88	" "			89 55
89	" "			89 56

#### Chain of Custody

Submission of asbestos samples for analysis and/or signing a chain of custody is the equivalent of submission of a purchase order and constitutes an agreement to pay for services provided at Dixon Information Incorporated standard schedule of fees for services.

Submitted by: Josh Rowland  
Received by Lab: [Signature]  
Received by Analyst: [Signature]  
Returned by Lab: \_\_\_\_\_

Date: 5-15-09 Time: 3:00 P.M.  
Date: 5-15-09 Time: 1500  
Date: 5-15-09 Time: 1800  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

STOP 160

# RUSH

Dixon Information Inc.  
78 West 2400 South  
South Salt Lake, Utah 84115  
Phone: 1-801-486-0800 Fax: 1-801-486-0849

# RUSH

### BULK ANALYTICAL REQUEST FORM

Turnaround Time - Circle One

Batch Number 84467

Rush (24 hours \$25.00 per sample)

Non-rush (5 Working days \$17.00 per sample)

Name of location sample was taken at Salt Lake Tooele Applied Tech (Libbie Edwards)  
Street address sample was taken at 3300 S. 1900 E.  
Sampled by: Josh Rowland

Report to be sent to: Rowland  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
E-mail: \_\_\_\_\_

Billing to be sent to: Rowland  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_  
PO #: \_\_\_\_\_

Field #	Description of Sample	Samples Collected		Lab #
		Date	Time	
90	9" Floor tile Tan w/Red speckle and Black mastic	10-13-09	1:00	8957
91	" "	" "	" "	8958
92	" "	" "	" "	8959
93	<del>Black mastic</del> Black mastic on Cove Base			8960
94	" "	" "	" "	8961
95	" "	" "	" "	8962
96	" "	" "	" "	8963
97	" "	" "	" "	8964

### Chain of Custody

Submission of asbestos samples for analysis and/or signing a chain of custody is the equivalent of submission of a purchase order and constitutes an agreement to pay for services provided at Dixon Information Incorporated standard schedule of fees for services.

Submitted by: Josh Rowland  
Received by Lab: [Signature]  
Received by Analyst: [Signature]  
Returned by Lab: \_\_\_\_\_

Date: 5-15-09 Time: 3:00 P.M.  
Date: 5-15-09 Time: 5:00  
Date: 5-15-09 Time: 1800  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

Stop to

## **Appendix "A"**

"This report relates only to the items tested. This report must not be used to claim product endorsement by NVLAP or AIHA."

NVLAP and AIHA requires laboratories to state the condition of samples received for testing: These samples are in acceptable condition for analysis unless there is a statement in the report of analysis that a test item has some characteristics or condition that precludes analysis or requires a modification of standard analytical methodology. If a test item is not acceptable, the reasons for non-acceptability will be given under the laboratory number for that particular test item.

### **Methods of Analysis and Limit of Detection**

In air count analysis, the result may be biased when interferences are noted.

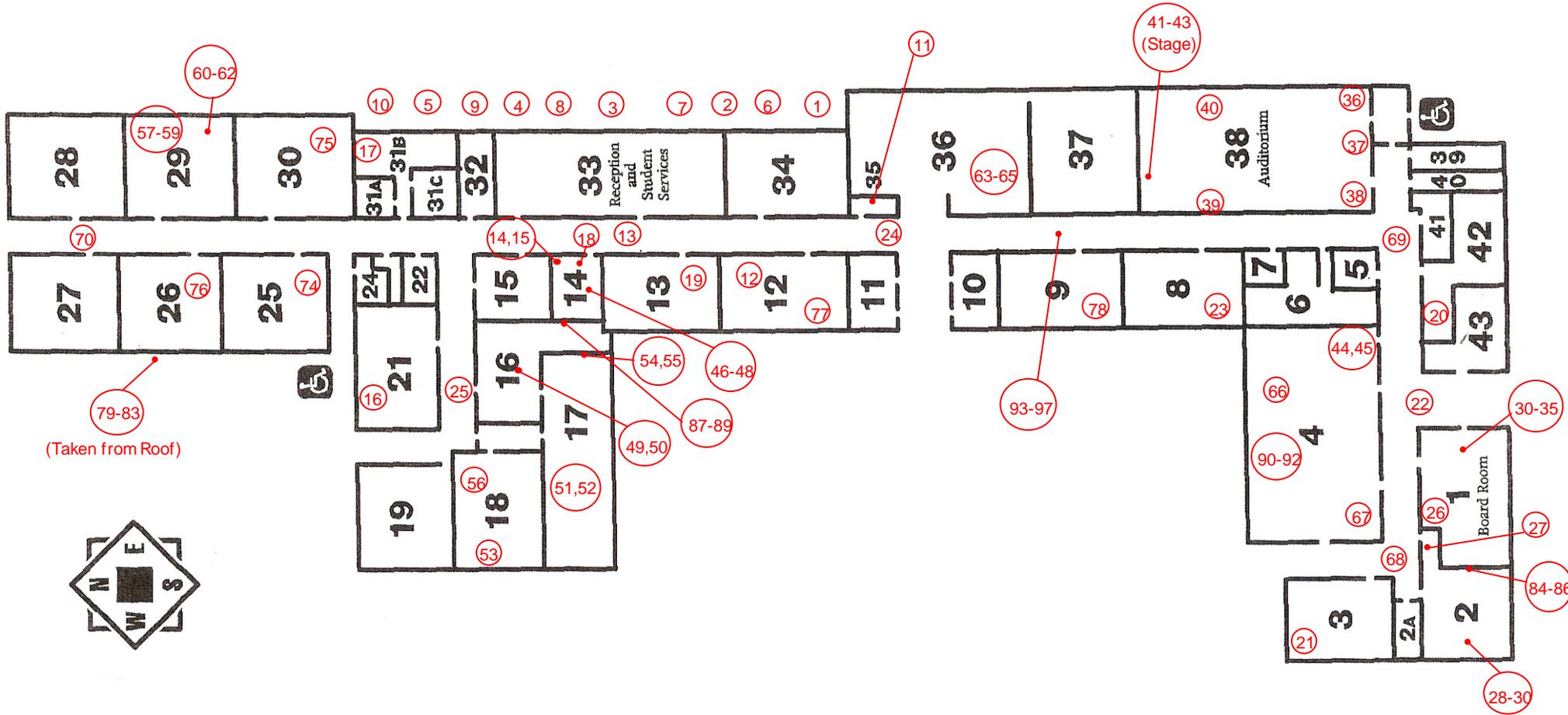
The accuracy of asbestos analysis in bulk samples increases with increasing concentration of asbestos. Pigments, binders, small sample size, and multiple layers may affect the analysis sensitivity.

There are two methods for analysis of asbestos in a bulk test sample. Visual estimation is the most sensitive method. If an analyst makes a patient search, 0.1% or less asbestos can be detected in a bulk sample.

The second method of analysis is a statistical approach called point counting. EPA will not accept visual estimations if a laboratory detects a trace of asbestos in a sample i.e. anything less than 1% asbestos. Government agencies regulate asbestos containing materials (ACM) whenever the ACM is more than 1%. OSHA requirements apply on samples containing any amount of asbestos.

Due to the higher charge for a point count analysis, Dixon Information Inc. does not perform a point count unless authorized to do so by the client. If a sample is point counted, chemical treatments will also be used to concentrate the asbestos in the sample. This is permitted by the EPA method and it increases the accuracy of the analysis.

# Utah School for the Deaf and Blind (Former Libbie Edward Elementary School) Salt Lake City, Utah



(Taken from Roof)

### Sample Location Map

# = Sample Number Location

# Utah School for the Deaf and Blind (Former Libbie Edward Elementary School) Asbestos Location Map

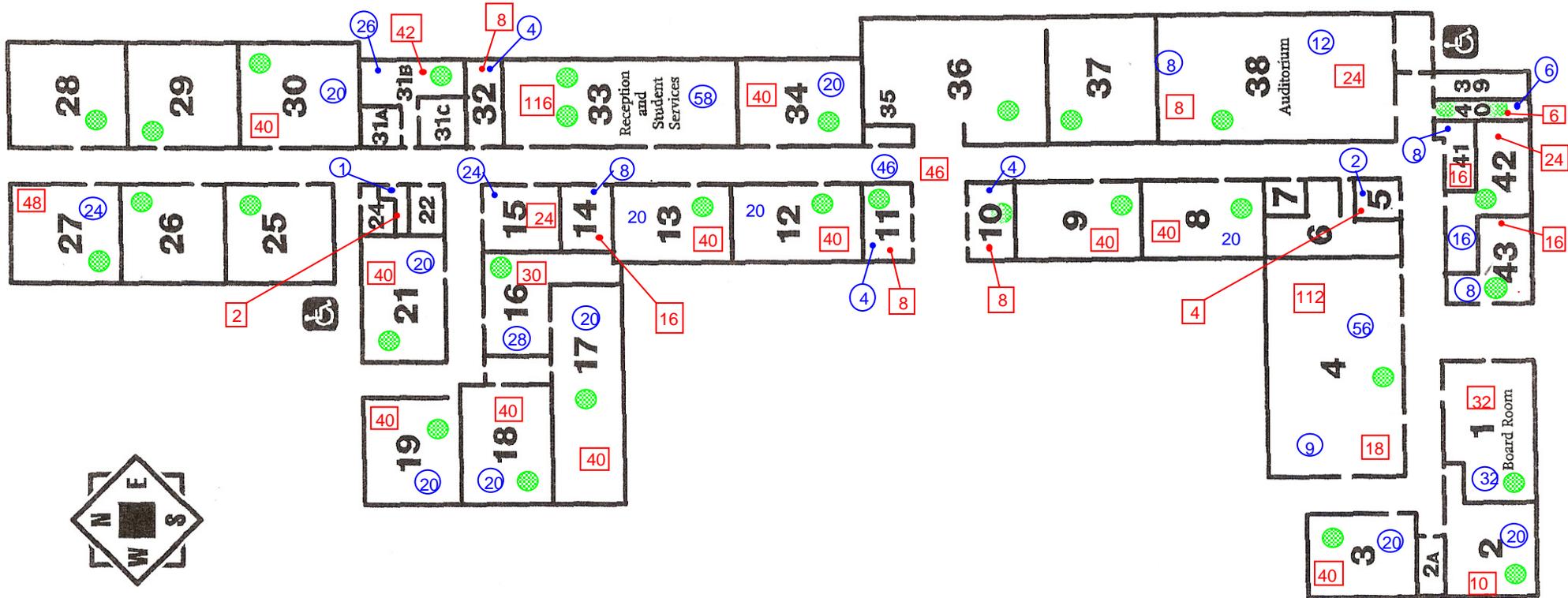


### Legend

	= M008, 9" Floor Tile, Brown w/Tan Streaks		= T001 & T002, Mudded Fittings and Pipe Insulation
	= M009, 9" Floor Tile, Light Brown w/Tan Stripe & M010, 12" Floor Tile, Tan w/Black Speck		= M003, 9" Floor Tile, Brown
	= M011, 9" Floor Tile, Red & M012, 9" Floor Tile, Grey		= M004, 9" Floor Tile Red w/Tan Stripe
	= M013, 12" Floor Tile, Off-White w/Tan Stripe		= M005, 9" Floor Tile, Maroon
	= M020, 9" Floor Tile, Tan w/Red Speck		= M006, 9" Floor Tile, Tan w/Brown Stripe
	= M018 & M019, Undersink Coating		= M007, 9" Floor Tile, Brown w/Red Stripe

**ROWLAND CONSULTING, INC.**  
7301 South Paddington Road  
West Jordan, Utah 84084  
(801)255-2800 fax (801)569-2501

# Utah School for the Deaf and Blind (Former Libbie Edward Elementary School) Mercury Switches, Fluorescent Light Tubes & Ballasts



### Legend

- # = Number of Fluorescent Light Tubes
- # =PCB Ballasts
- =Mercury Switches

**ROWLAND CONSULTING, INC.**  
7301 South Paddington Road  
West Jordan, Utah 84084  
(801)255-2800 fax (801)569-2501

# LEAD-BASED PAINT INSPECTION

*Utah School for the Deaf and Blind  
(Libbie Edward Elementary School)  
1655 East 3300 South  
Salt Lake City, Utah*



July 3, 2009

**Prepared for:**

Robert Anderson, HAZMAT Manager  
Division of Facilities Construction & Management  
4110 State Office Building  
Salt Lake City, Utah 84114

**Prepared by:**



**ROWLAND CONSULTING, INC.**  
7301 South Paddington Road  
West Jordan, Utah 84084  
OFFICE 801.255.2800 FAX 801.569.2501

# LEAD-BASED PAINT INSPECTION

*Utah School for the Deaf and Blind  
(Libbie Edward Elementary School)  
1655 East 3300 South  
Salt Lake City, Utah*

## Introduction

On June 25, and July 2, 2009, **ROWLAND CONSULTING, INC.** performed a Lead-Based Paint (LBP) survey of the Utah School for the Deaf and Blind ("Old" Libbie Edward Elementary School), 1655 East 3300 South, Salt Lake City, Utah. The purpose of the survey was to identify the existence, extent and condition of LBP on interior/exterior surfaces of the building. Measurements for lead in paint were made using a *Radiation Monitoring Devices, Inc. (RMD) LPA-1 X-ray Fluorescence (XRF) Spectrum Analyzer*. Chip sampling and laboratory analysis was not performed unless it was required in accordance with the spectrum analyzers current performance characteristics sheet. However, **ROWLAND CONSULTING, INC.** recommends confirmatory chip sampling of XRF measurements between 0.0-0.3 prior to planned renovation activities.

The survey was conducted by Josh Rowland, and Jeff Rowland with **ROWLAND CONSULTING, INC.**, in West Jordan, Utah. Josh and Jeff Rowland have completed Lead Inspector Training through the University of Utah Rocky Mountain Center For Occupational And Environmental Health Lead Training Facility, an EPA-sponsored Regional Lead Training Center, and are certified by the State of Utah, Division of Air Quality, as Lead Inspectors.

The U.S. Department of housing and Urban Development (HUD) *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in housing* (HUD Guidelines), Chapter 7: Lead-Based Paint Inspection, 1997 Revision, were generally followed for this survey, with modifications appropriate for a non-residential building.

## Lead-Based Paint Definitions

HUD defines "lead-based paint" as any coating that has a lead concentration of 1.0 milligram of lead per square centimeter ( $1.0 \text{ mg/cm}^2$ ) or greater, or if the lead concentration is greater than 0.5% by weight. The Consumer Product Safety Commission (CPSC) currently considers paint to be lead-containing if the concentration of lead exceeds 600 ppm (0.06% by weight). In 1978, the CPSC banned the sale of lead-based paint to consumers, and banned its application in areas where consumers have direct access to painted surfaces. Both the CPSC and HUD definitions of lead-containing

paint are aimed at protecting the general population from exposure to lead in the residential setting. By contrast, the mission of the Occupational Safety and Health Administration (OSHA) with respect to lead-containing paint, is to protect workers during construction activities that may generate elevated airborne lead concentrations. OSHA states that construction work (including renovation, maintenance, and demolition) carried-out on structures coated with paint have lead concentrations lower than the HUD or CPSC can still result in airborne lead concentrations in excess of regulatory limits. For this reason, OSHA has not defined lead-containing paint, but states that paint having any measurable level of lead may pose a substantial exposure hazard during construction work, depending upon the work performed.

### **Paint Sampling Methodologies**

Direct measurements of lead in paint were made using a Radiation Monitoring Devices, Inc. (RMD) *LPA-1 X-ray Fluorescence (XRF) Spectrum Analyzer* (serial number 2311). The LPA-1 Lead Paint Analyzer non-destructively measures lead concentrations of painted surfaces, regardless of the number of layers present. These instruments were developed specifically for addressing lead-based paint issues in housing and their use in identifying potential exposure hazards for renovation or construction work must be augmented by selective collection and analysis of physical paint chip samples.

The newer XRF instruments are capable of identifying lead in paint at concentrations of about 0.3 milligram per square centimeter ( $\text{mg}/\text{cm}^2$ ) or greater. When lead concentrations are lower than this, the instruments are not capable of making accurate, reliable measurements, and the reported lead concentration may underestimate or overestimate the actual lead concentration in the paint. Therefore, an XRF readings of  $0.4 \text{ mg}/\text{cm}^2$  or greater may be considered lead-containing from an OSHA perspective, and any readings of  $0.3 \text{ mg}/\text{cm}^2$  or less should be confirmed by the collection and laboratory analysis of paint chip samples, or assumed to be positive for lead.

Where paint chip samples are necessary, samples are collected according to the protocol specified in the HUD Guidelines. The samples are then submitted to a laboratory recognized under the EPA's National Lead Laboratory Accreditation Program (NLLAP) for analysis by flame atomic absorption spectrophotometry according to American Society of Testing and Materials (ASTM) method ASTM-E 1645.

### **XRF Calibration**

Before beginning the testing and after the testing was completed, the internal calibration of the LPA-1 was checked by taking three consecutive measurements (Time Corrected Mode-TCM) on a National Institute for Standards and Technology (NIST) standard with a known concentration of lead. Three more readings (Quick Mode-QM) were taken on a lead-free wood block. These calibration checks are reported within the XRF data tables found in Appendix A of this report and are maintained in a file at **ROWLAND CONSULTING, INC.** to detect changes in instrument performance over time.

## Lead Paint Inspection Data Tables

The XRF instrument generates a unique set of data tables for each inspection. The Sequential Report lists the measurements made throughout the property in sequential order, from the first measurement to the last.

### Results and Conclusions

#### ***DETECTABLE MEASUREMENTS OF LEAD WERE IDENTIFIED ON THE FOLLOWING COMPONENTS:***

##### *Interior*

- *Cafeteria ceramic block walls (yellow glazing); Boys and Girls restroom ceramic tile walls and coping (yellow, green, and pink glazing).*

##### *Exterior*

- *Windows: 179 each 4'x8'; 8 each 6'x4' transom windows; 8 each 3'x4' transom windows; 10 each 2'x8' = 205 total windows.*

***TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) TESTING MAY BE NECESSARY PRIOR TO RENOVATION/DEMOLITION OF THIS FACILITY.***

**Table 1  
XRF Sampling Results**

Sample No.	Area of Building	Color / Condition	Component / Substrate	XRF Results Mg/cm <sup>2</sup>
01TCM				CALIBRATION 0.7
02 TCM				CALIBRATION 0.7
03 TCM				CALIBRATION 0.6
04 QM				CALIBRATION -0.3
05 QM				CALIBRATION -0.2
06 QM				CALIBRATION -0.4
07	Room 1	White/good	South wall/plaster	NEGATIVE -0.5
08		White/fair	West wall/plaster	NEGATIVE -0.4
09		White/fair	North wall/plaster	NEGATIVE -0.3
10	Room 2	White/fair	East wall/plaster	NEGATIVE -0.3
11		White/good	South wall/plaster	NEGATIVE -0.2
12		Blue/good	Door frame/metal	NEGATIVE -0.3
13		Cream/fair	Window frame/metal	NEGATIVE -0.5

**Table 1**  
**XRF Sampling Results (continued)**

Sample No.	Area of Building	Color / Condition	Component / Substrate	XRF Results Mg/cm <sup>2</sup>
14	Room 3	White/good	East wall/plaster	NEGATIVE -0.2
15		White/good	South wall/plaster	NEGATIVE -0.2
16		Clear/good	Cabinet door/wood	NEGATIVE -0.0
17		Clear/good	Cabinet frame/wood	NEGATIVE -0.0
21		White/good	North wall/plaster	NEGATIVE -0.0
22	<i>Cafeteria</i>	<i>Yellow/good</i>	<i>North wall/ceramic block</i>	<i>POSITIVE</i> <i>&gt;9.9</i>
23		<i>Yellow/good</i>	<i>North wall, lower/ceramic block</i>	<i>POSITIVE</i> <i>&gt;9.9</i>
24	South entry hallway	White/good	East wall/plaster	NEGATIVE -0.0
25		White/good	West wall/plaster	NEGATIVE -0.1
26		Brown/good	Door frame/metal	NEGATIVE -0.0
27		Tan/good	Door jamb/metal	NEGATIVE -0.1
28	Room 43	White/good	South wall, lower/plaster	NEGATIVE -0.0
29		White/good	East wall/drywall	NEGATIVE -0.0
30	Room 39	White/good	East wall/plaster	NEGATIVE -0.2
31	Auditorium	White/good	South wall/plaster	NEGATIVE -0.0
32		White/good	West wall/plaster	NEGATIVE -0.3
33	Room 8	White/good	West wall, lower/plaster	NEGATIVE -0.1
34		White/good	East wall/plaster	NEGATIVE -0.0
35	Gymnasium	White/good	East wall, lower/plaster	NEGATIVE -0.2
36		White/good	North wall/plaster	NEGATIVE -0.2
37	<i>Boys rest room</i>	<i>Yellow/good</i>	<i>Wall, lower/ceramic tile</i>	<i>POSITIVE</i> <i>&gt;9.9</i>
38		<i>Green/good</i>	<i>Wall/ceramic tile</i>	<i>POSITIVE</i> <i>&gt;9.9</i>
39		<i>Green/good</i>	<i>Wall/ceramic tile</i>	<i>POSITIVE</i> <i>&gt;9.9</i>
40	<i>Girls rest room</i>	<i>Green/good</i>	<i>Wall/ ceramic tile</i>	<i>POSITIVE</i> <i>&gt;9.9</i>

**Table 1  
XRF Sampling Results (Continued)**

Sample No.	Area of Building	Color / Condition	Component / Substrate	XRF Results Mg/cm <sup>2</sup>
41	Girls restroom	White/good	Window/metal	NEGATIVE -0.2
42		White/good	Window jamb/metal	NEGATIVE -0.2
43	Room 13	White/good	East wall/plaster	NEGATIVE -0.0
44	North-South hallway	White/good	East wall/plaster	NEGATIVE -0.0
45	Room 30	White/good	West wall/plaster	NEGATIVE -0.0
46	Room 19	White/good	North wall/plaster	NEGATIVE -0.2
47	Room 17	White/good	North wall/drywall	NEGATIVE -0.0
48	Room 25	White/good	Window frame/metal	NEGATIVE -0.3
49		White/good	Window frame/metal	NEGATIVE -0.1
50	Room 27	White/good	Window frame/metal	NEGATIVE -0.0
51	Room 16	Cream-white/good	South Window frame/metal	NEGATIVE -0.1
52	Room 43	Cream-white/good	East Window frame/metal	NEGATIVE -0.3
53	<i>Exterior, northwest entry</i>	<i>Cream/poor</i>	<i>Window frame/metal</i>	<i>POSITIVE 1.0</i>
54		<i>Cream/poor</i>	<i>Window frame/metal</i>	<i>POSITIVE 7.2</i>
55		<i>Cream/poor</i>	<i>Transom window/metal</i>	<i>POSITIVE 2.0</i>
56		Pink/good	Door frame/metal	NEGATIVE -0.4
57		Pink/good	Door jamb/metal	NEGATIVE -0.1
58	Exterior north	Cream/good	Window frame/metal	NEGATIVE -0.1
59	Exterior east	Cream/good	Window frame/metal	NEGATIVE -0.1
60		Cream/good	Window frame/metal	NEGATIVE -0.2
61	<i>Exterior, east</i>	<i>Cream/poor</i>	<i>Window frame/metal</i>	<i>POSITIVE 2.4</i>
62		<i>Cream/poor</i>	<i>Window frame/metal</i>	<i>POSITIVE 1.8</i>
63	<i>Exterior, southeast</i>	<i>Cream/poor</i>	<i>Window frame/metal</i>	<i>POSITIVE 4.0</i>
64	<i>Exterior, south</i>	<i>Cream/poor</i>	<i>Window/metal</i>	<i>POSITIVE 3.2</i>
65		<i>Cream/poor</i>	<i>Window/metal</i>	<i>POSITIVE 3.6</i>

**Table 1**  
**XRF Sampling Results (Continued)**

Sample No.	Area of Building	Color / Condition	Component / Substrate	XRF Results Mg/cm <sup>2</sup>
66	Exterior south front entry	Cream/good	Transom window/metal	POSITIVE 3.8
67	Exterior southwest	Cream/good	Door trim/metal	POSITIVE 3.1
68		Cream/good	Door/metal	NEGATIVE -0.3
69		Cream/good	Window frame/metal	POSITIVE >9.9
70		Cream/good	Window/metal	POSITIVE 1.0
71		Cream/good	Window/metal	NEGATIVE -0.1
72	Exterior Cafeteria entry	Cream/poor	Window/metal	POSITIVE 4.6
73		Cream/poor	Window/metal	POSITIVE >9.9

The XRF instrument indicated that lead is present in/on painted interior surfaces.

The OSHA Lead in Construction Standard (29 CFR 1926.62) shall apply to any construction work (including renovation and demolition) that may disturb those surfaces. The standard requires, among other things, the following:

- Initial training on the hazards of lead exposure, proper work practices, respiratory protection, and other topics;
- An initial exposure assessment, by air monitoring, to determine the lead exposure assessment, until sample analysis indicates exposures below the Permissible Exposure Limit;
- Hand washing facilities, designated clean change areas, and designated eating areas.

The OSHA Lead in Construction Standard (29 CFR 1926.62) lists the following as **Lead Related Tasks**:

- **Abrasive blasting**: removes scale, paint, and dirt from surfaces prior to repainting: abrasive media includes sand, steel grit, steel shot, aluminum oxide, "Black Beauty" (processed boiler slag, and others).
- **Welding, cutting and burning on steel structures**: involves the process of heating coated steel to its melt temperature typically by using an oxy-acetylene torch or an arc welder.
- **Lead burning**: involves torch melting or fusing of lead or alloyed lead to another lead object.

- **Manual scraping and sanding:** associated with lead paint removal and involves the application of hand-held scraping or sanding tool to the painted surface containing lead.
- **Manual demolition of structures:** involves removal of walls (plaster, gypsum) or building components coated with lead based paint by sledge hammer or similar tool.
- **Heat gun application:** involves use of a heat gun that produces a stream of hot air which is directed to surfaces to melt lead paint which is subsequently scraped off.
- **Using lead containing mortar:** typically used in high pressure acid tanks lined with specialized tile or lead brick held in place with specialized lead-containing mortar or grout; these tank linings periodically require repainting, repairing, or relining involving lead containing mortar.
- **Abrasive blasting enclosure movement and removal:** involves movement and removal of blasting enclosure or containment units as work proceeds on structures; such units are often comprised of flexible nylon, plastic or burlap tarpaulins upon which lead dust will accumulate and be re-entrained when movement of the structure occurs.
- **Power tool cleaning:** involves the use of power tools (grinders, brushes, needle guns, sanders, etc.) to remove dirt, scale, or paint from structures where lead based paint is present.
- **Rivet busting:** involves removal of rivets from steel structures where lead containing paints are present: rivet busting can involve use of torches and mechanical means for rivet extraction.
- **Clean up activities where dry expendable abrasives are used:** pertains to the use of non-recycled dry abrasives during abrasive blasting operations on structures where lead containing paint is found.

In addition to the above considerations, the presence of lead in demolition debris has the potential to impose limitations on where and how the debris may be disposed. The Resource Conservation and Recovery Act (RCRA), Subtitles C and D, require that the waste must be analyzed to determine the amount of leachable lead present. The type of test to be performed on the waste is the Toxicity Characteristic Leaching Procedure (TCLP) for lead, and the results of this test will determine whether the material must be handled and disposed of as hazardous waste. For structures containing large amounts of lead-containing paint, significant potential for failing the TCLP exists.



July 10, 2009

**LIBBIE EDWARDS SCHOOL REMODEL  
SALT LAKE CITY, UTAH**

**FOOD SERVICE EQUIPMENT ADDENDUM #1**

**FOOD SERVICE EQUIPMENT  
SPECIFICATION SECTION 11400**

FS-AD#1-1:

The following alternate manufacturers have been approved for this project where, and in so much as they match the specification exactly.

1. Imperial, Master-Bilt and WA Brown in lieu of Kolpack for walk-in boxes.
2. Imperial, Master-Bilt and WA Brown in lieu of Kolpack for refrigeration system.
3. Hatco, Delfield, Randell and Wells in lieu of APW for hot food warmers.
4. Hatco, Delfield, Randell and Wells in lieu of APW for refrigerated cold pans.
5. Eagle in lieu of InterMetro for wire shelving.
6. Eagle in lieu of Advance for work tables and sinks.
7. Gaylord, Avtec and Spring Air in lieu of AquaMatic for exhaust hood.
8. Kidde in lieu of Ansul for fire protection system.
9. Panasonic and Amana in lieu of Sharp for microwave oven.

Please contact me if you have any questions.

Submitted by,

Ric Jedrziwski

**MILLER &  
JEDRZIEWSKI  
ASSOCIATES**

INTERIOR DESIGN – SPACE PLANNING – FOOD FACILITIES DESIGN



## **STRUCTURAL ADDENDUM**

---

**Project:** Libbie Edwards Elementary Remodel  
Utah School for the Deaf and Blind  
**Project No.:** 09110.a

**Location:** Salt Lake City, UT  
**Date:** July 10, 2009

**By:** Robert M. Moyle, SE

---

**Re:** Structural Addendum

---

The following narrative explains the structural item issued as part of this addendum. See attached sketch for additional information.

SG001: Add a note to the structural steel notes as shown on the attached drawing.

SF101A: The parapet brace call-out on Grid H referenced the wrong detail. Change this note as shown on the attached drawing to reference the correct detail.

SF501: Revise the parapet brace in detail E5/SF501 as shown on the attached drawing.

This concludes the structural item in this addendum.

---

**Copy to:** Boyd Viehweg (Axis Architects)

---

Filing : Project File  Other  
09110-a\_add#1\_071009



Project No. 09119.A Sheet No. SG001  
Project Libbie Edwards Elementary Upgrade  
Prepared By Doc Date 06 July 2009  
Client Axix Architects

## STRUCTURAL NOTES :

### F. STRUCTURAL STEEL

#### 6. BOLTING

- a. UNLESS NOTED OTHERWISE, ALL STRUCTURAL STEEL TO STEEL CONNECTIONS SHALL USE HIGH STRENGTH BOLTS CONFORMING TO ASTM A-325.
- b. UNLESS NOTED OTHERWISE, ALL BOLTING IS CLASSIFIED AS NON-SLIP CRITICAL BEARING TYPE CONNECTIONS WITH THREADS INCLUDED IN SHEAR PLANE. TIGHTEN BOLTS TO A SNUG TIGHT CONDITION, WITH ALL PLIES OF THE JOINT IN FIRM CONTACT.
- c. AT OVERSIZED AND SLOTTED HOLES, WASHERS SHALL CONFORM TO ASTM F-436 AND COMPLETELY COVER THE HOLE.
- d. WHERE A STEEL BEAM TO BEAM CONNECTION IS NOT SHOWN, PROVIDE AN AISC STANDARD FRAMED CONNECTION SIZED FOR 1/2 OF THE TOTAL LOAD CAPACITY OF THE BEAM FOR THE SPAN AND STEEL SPECIFIED.

7. FABRICATORS AND SUPPLIERS SHALL COORDINATE PAINT/FINISHES WITH REQUIREMENTS FOR DIRECT APPLIED INSULATION, FIREPROOFING, ETC. AS NOTED IN THE PROJECT SPECIFICATIONS.

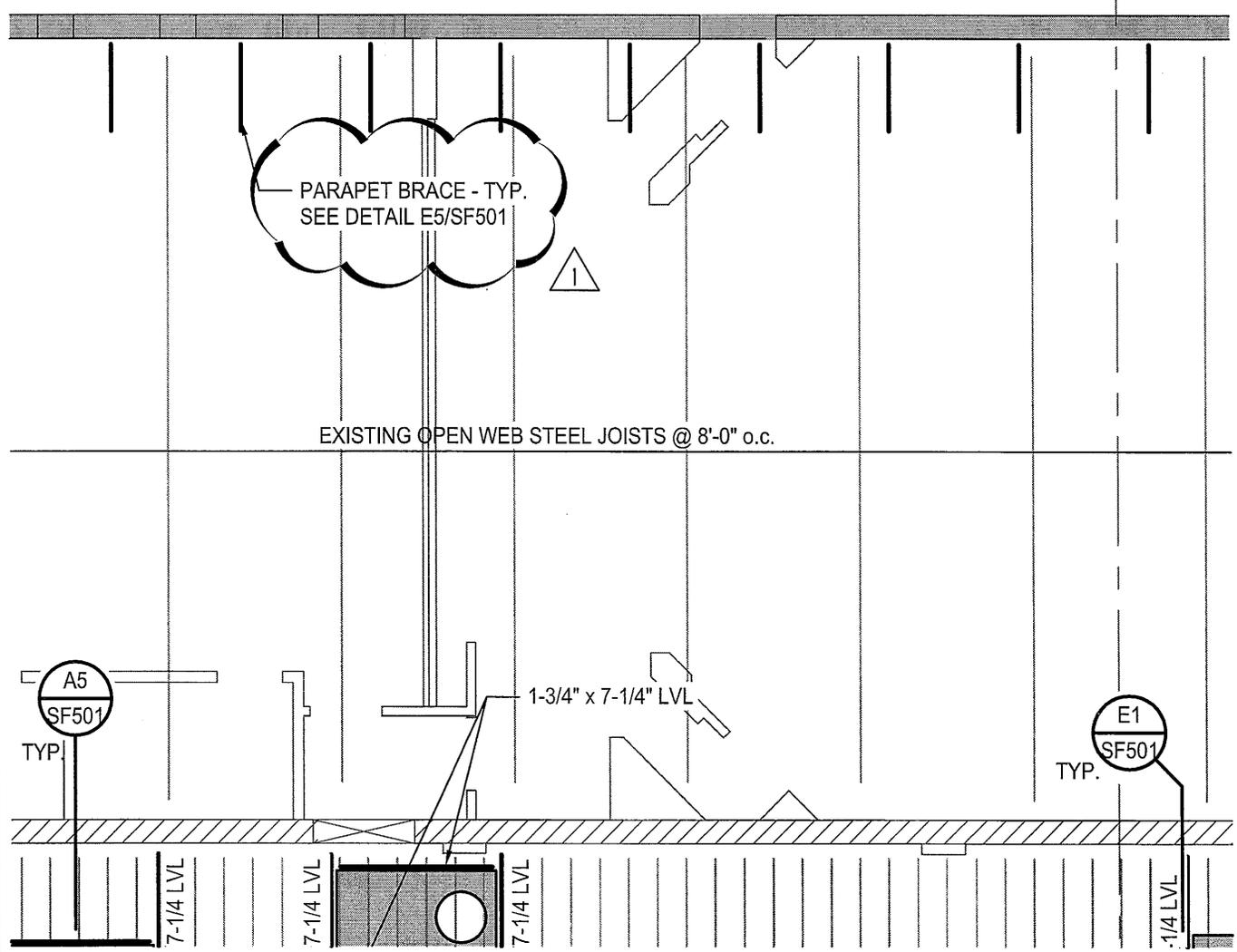
8. WHEN DETERMINING THE FIRE RESISTANCE OF ASSEMBLIES, USE THE FOLLOWING: STEEL ROOF MEMBERS ARE CONSIDERED UN-RESTRAINED AND STEEL FLOOR FRAMING MEMBERS ARE CONSIDERED RESTRAINED.

9. UNLESS NOTED OTHERWISE, ALL HORIZONTAL FRAMING MEMBERS SHALL BE ERECTED WITH THE NATURAL CROWN UP.

10. STEEL FABRICATORS MUST BE ON DFCM'S APPROVED FABRICATORS LIST. THIS LIST CAN BE FOUND ON THE DFCM WEB-SITE AT [http://dfcm.utah.gov/downloads/bldg\\_official/approved\\_fabricator\\_list\\_09.pdf](http://dfcm.utah.gov/downloads/bldg_official/approved_fabricator_list_09.pdf).

7

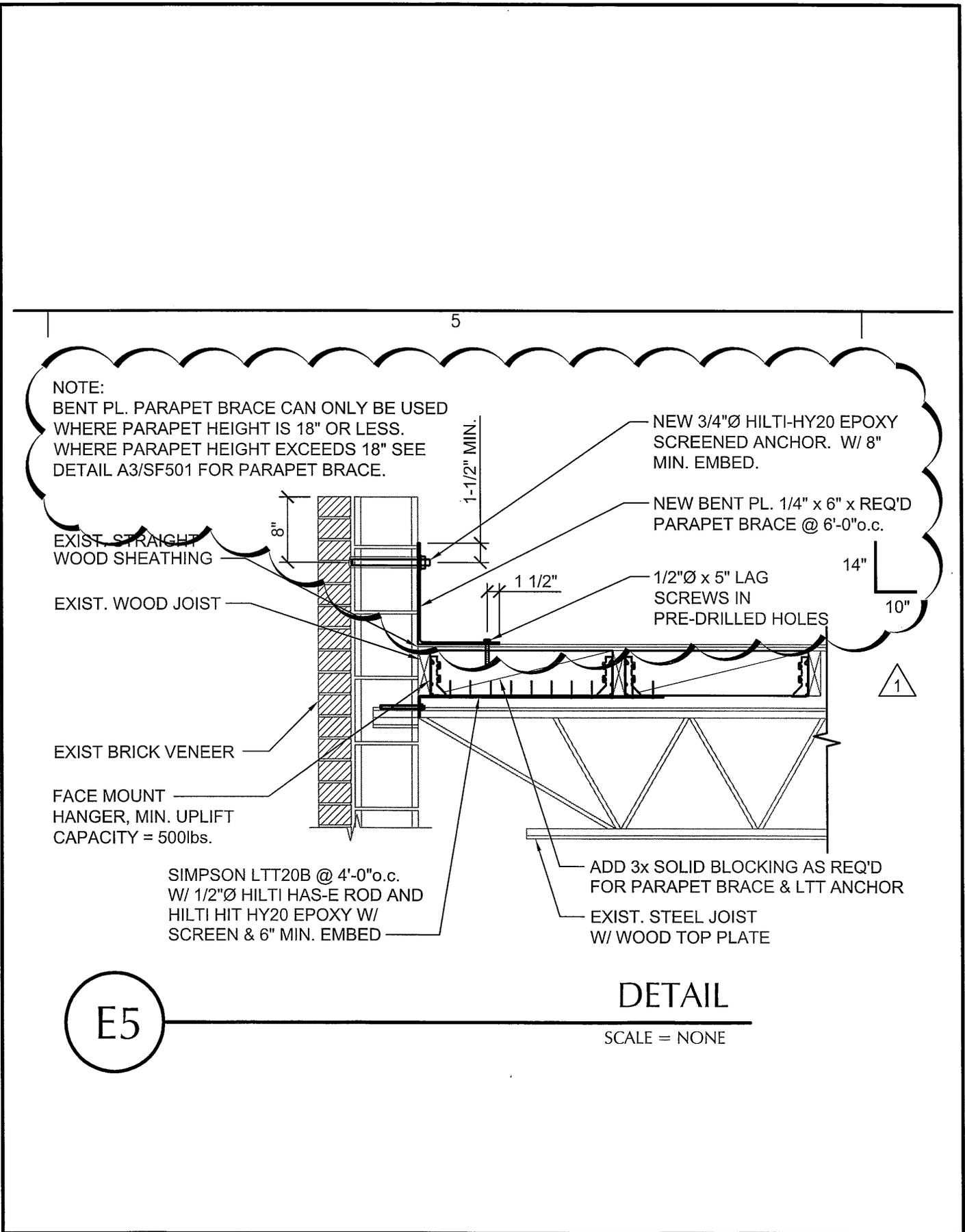
SEE UPGRADE NOTE #3



**EXIST. ROOF FRAMING - AREA 'A'**

SCALE: 1/8" = '1-0"

A  
SF101A



**E5**

**DETAIL**

SCALE = NONE

STRUCTURAL NOTES :

A. GENERAL

- 1. THE STRUCTURAL NOTES ARE INTENDED TO COMPLEMENT THE PROJECT SPECIFICATIONS WHICH ARE PART OF THE CONSTRUCTION DOCUMENTS. SPECIFIC NOTES AND DETAILS ON THE DRAWINGS SHALL GOVERN OVER THE STRUCTURAL NOTES AND TYPICAL DETAILS.
2. THE ARCHITECTURAL DRAWINGS ARE THE PRIME CONTRACT DRAWINGS. THE STRUCTURAL DRAWINGS ARE SUPPLEMENTARY TO AND MUST BE USED IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS AND OTHER CONSULTANTS DRAWINGS. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY WORK INVOLVED. IN CASE OF CONFLICT, FOLLOW THE MOST STRINGENT REQUIREMENT AS DIRECTED BY THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
3. SEE SPECIFICATIONS FOR REQUIRED SUBMITTALS. SUBMITTALS SHALL BE MADE IN A TIMELY MANNER AS INDICATED IN SPECIFICATIONS. REVIEW OF SUBMITTALS IS FOR GENERAL COMPLIANCE ONLY AND IS NOT INTENDED AS APPROVAL. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL SIZES, DIMENSIONS, AND ELEVATIONS ON SUBMITTALS AS RELATED TO DESIGN DOCUMENTS. PREPARATION OF SHOP DRAWINGS FOR STRUCTURAL ELEMENTS WILL REQUIRE INFORMATION (I.E. DIMENSIONS, ETC.) FOUND IN THE ARCHITECTURAL, STRUCTURAL, AND OTHER CONSULTANTS DRAWINGS.
4. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE SITE. IF ACTUAL CONDITIONS DIFFER FROM THOSE SHOWN ON CONTRACT DOCUMENTS, CONTRACTOR SHALL NOTIFY ARCHITECT PRIOR TO FABRICATION OR CONSTRUCTION OF ANY AFFECTED ELEMENTS.
5. THE CONTRACTOR SHALL COORDINATE AND VERIFY ALL LOCATIONS AND SIZES OF MECHANICAL EQUIPMENT OR OTHER EQUIPMENT BEFORE FABRICATING AND ERECTING STRUCTURAL ELEMENTS. SIZES AND LOCATIONS THAT DIFFER FROM THOSE SHOWN ON THE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE ARCHITECT.
6. THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO THE ARCHITECT FOR ARCHITECT AND/OR ENGINEER APPROVAL BEFORE PROCEEDING WITH ANY CHANGES, MODIFICATIONS, OR SUBSTITUTIONS. OBSERVATION VISITS TO THE SITE BY ARW ENGINEERS FIELD REPRESENTATIVES SHALL NEITHER BE CONSTRUED AS INSPECTION NOR APPROVAL OF CONSTRUCTION.
7. DURING AND AFTER CONSTRUCTION, BUILDER AND/OR OWNER SHALL KEEP LOADS ON STRUCTURE WITHIN THE LIMITS OF DESIGN LOADS AS NOTED IN THESE DOCUMENTS.
8. SUBJECT TO REVIEW AND APPROVAL BY THE ENGINEER, TYPICAL OR SIMILAR DETAILS AND SECTIONS SHALL APPLY WHERE SPECIFIC DETAILS ARE NOT SHOWN. TYPICAL OR SIMILAR DETAILS REFER TO THE CONDITION ADDRESSED AND ARE NOT NECESSARILY LABELED 'TYPICAL' OR 'SIMILAR' IN THE PLANS AND DOCUMENTS.
9. DRAWINGS AND DETAILS HAVE BEEN PREPARED WITH THE INTENT TO VISUALLY REPRESENT INFORMATION PROVIDED IN SCALED FORM; HOWEVER CONTRACTOR/SUPPLIERS SHOULD NOT SCALE PLANS OR DETAILS FOR DIMENSIONAL INFORMATION.
10. THE CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY SHORING AND BRACING FOR ALL STRUCTURAL ELEMENTS UNTIL THE ENTIRE STRUCTURAL SYSTEM IS COMPLETED. DESIGN OF ALL SHORING AND BRACING IS BY OTHERS AT NO ADDITIONAL COST TO THE OWNER.
11. ENGINEER SHALL NOT BE RESPONSIBLE FOR ACTIVITIES UNDER CONTROL OF THE CONTRACTOR SUCH AS CONSTRUCTION SITE SAFETY, MEANS, METHODS AND SEQUENCING OF CONSTRUCTION. ENGINEER SHALL NOT BE RESPONSIBLE FOR FABRICATION, ERECTION AND CONSTRUCTION REQUIREMENTS AS PRESCRIBED BY OSHA OR OTHER REGULATORY AGENCIES REGARDLESS OF INDICATIONS IN THESE DOCUMENTS.
12. NOTICE OF COPYRIGHT: THESE STRUCTURAL DRAWINGS ARE HEREBY COPYRIGHTED BY ARW ENGINEERS. ALL RIGHTS RESERVED. THESE DOCUMENTS DEFINE A STRUCTURE AND ARE INSTRUMENTS OF SERVICE. FOR ONE USE ONLY. REPRODUCTION AND DISTRIBUTION OF THESE DRAWINGS IS ONLY ALLOWED AS REQUIRED FOR REGULATORY AGENCIES AND FOR CONVEYANCE OF INFORMATION TO PARTIES INVOLVED IN THE CONSTRUCTION OF THIS PROJECT. THESE DOCUMENTS SHALL NOT BE REPRODUCED OR COPIED, IN PART OR WHOLE BY ANY PARTY FOR USE IN PREPARATION OF SHOP DRAWINGS OR OTHER SUBMITTALS.

B. SPECIAL INSPECTION

- 1. SPECIAL INSPECTION SHALL BE PROVIDED BY AN INDEPENDENT AGENCY IN ACCORDANCE WITH IBC 1704 AND AS OUTLINED AND SCHEDULED IN THESE DOCUMENTS. CONTRACTOR SHALL COORDINATE AND COOPERATE WITH REQUIRED INSPECTIONS.
2. ITEMS REQUIRING SPECIAL INSPECTION ARE LISTED IN THE SPECIAL INSPECTION SCHEDULE.

C. BASIS OF DESIGN

- 1. GOVERNING BUILDING CODE: INTERNATIONAL BUILDING CODE (IBC) 2006 & ASCE 41-06 OCCUPANCY CATEGORY: III
2. SEISMIC DESIGN:
a. SPECTRAL RESPONSE COEFFICIENTS: COLLAPSE PREVENTION: SXS = 1.67 SX1 = 0.99 LIFE SAFETY: SXS = 0.83 SX1 = 0.45

D. CONCRETE

- 1. ALL CONCRETE SHALL HAVE A DESIGN 28-DAY COMPRESSIVE STRENGTH AS FOLLOWS:
a. FOOTINGS, FOUNDATION WALLS, AND GRADE BEAMS: 3000 PSI
b. INTERIOR SLABS ON GRADE: 3000 PSI
c. INTERIOR SUSPENDED SLABS: 3000 PSI
2. NO PIPES, DUCTS, SLEEVES, ETC. SHALL BE PLACED IN STRUCTURAL CONCRETE UNLESS SPECIFICALLY DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER. NO ALUMINUM PRODUCTS SHALL BE EMBEDDED IN CONCRETE. PENETRATIONS THRU STRUCTURAL CONCRETE ELEMENTS MUST BE APPROVED BY THE ENGINEER AND SHALL BE BUILT INTO THE ELEMENT PRIOR TO CONCRETE PLACEMENT.
3. REFER TO ARCHITECTURAL DRAWINGS FOR MOLDS, GROOVES, ORNAMENTS, ETC. TO BE CAST IN TO CONCRETE, AND FOR EXTENT AND LOCATION OF DEPRESSIONS, CURBS, RAMPS, ETC.
4. UNLESS NOTED OTHERWISE, CONCRETE SLABS ON EARTH SHALL BE REINFORCED AS FOLLOWS:
a. THICK - #3 AT 18" O.C. EACH WAY
b. THICK - #3 AT 18" O.C. EACH WAY
REINFORCING SHALL BE CONTINUOUSLY SUPPORTED AT 36" O.C. MAXIMUM SPACING.

E. ANCHOR BOLTS/EMBEDDED BOLTS

- 1. ALL ANCHOR BOLTS SHALL HAVE ASTM A-963 HEAVY HEX NUT AND ASTM F-436 WASHERS AT STANDARD OR OVERSIZED HOLES PER AISC SPECIFICATION TABLE D3.3, WHERE HOLE SIZES DO NOT COMPLY WITH THE LIMITATIONS FOR OVERSIZED HOLES THE STRUCTURAL ENGINEER SHALL BE NOTIFIED TO DETERMINE STEEL PLATE WASHER REQUIREMENTS. ANCHOR BOLTS SHALL COMPLY WITH THE FOLLOWING:
a. AT WOOD STUD WALLS - ASTM A-307 GRADE HEADED BOLTS. ANCHOR BOLTS IN TREATED LUMBER SHALL BE GALVANIZED OR STAINLESS STEEL. SEE TIMBER NOTES FOR MORE INFORMATION.
b. AT ALL OTHER ANCHOR BOLTS (UNLESS NOTED OTHERWISE) - ASTM F1554 GRADE 36 HEADED BOLTS. (ASTM A36 TREATED FOR CORROSION RESISTANCE) SHALL BE USED WITH DOUBLE NUT AND WASHER.
2. EMBEDDED BOLTS IN MASONRY SHALL BE (UNLESS NOTED OTHERWISE) ASTM A-307 GRADE HEADED BOLTS. FURNISH TEMPLATES AND OTHER DEVICES AS NECESSARY FOR PRESETTING ALL BOLTS PRIOR TO PLACING CONCRETE AND/OR GROUT.
3. IF THREADED RODS ARE USED AS PERMITTED ABOVE, THEY SHALL BE CLEAR OF SOIL AND DIRT.
4. WHERE REQUIRED FOR ERECTION, HOLES LARGER THAN OVERSIZED MAY BE PERMITTED WITH THE USE OF STEEL PLATE WASHERS AT THE DISCRETION OF THE STRUCTURAL ENGINEER.

F. STRUCTURAL STEEL

- 1. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING:
a. ANSIAISC 360-05 'SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS', WITH 'COMMENTARY' AND 'SUPPLEMENTS' AS REQUIRED BY BUILDING CODE.
b. AISC 308-08 'CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES' EXCLUDING THE FOLLOWING SECTIONS: 4.4, 4.1, AND 4.4.2.
c. AISI 'SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS'.
d. AISI 'SPECIFICATION FOR STRUCTURAL JOISTS USING ASTM A-992'.
e. AWS D1.1 AND 1.3 'STRUCTURAL WELDING CODE' (EXCEPT SPECIFIC ITEMS DO NOT APPLY IF THEY CONFLICT WITH AISI).
2. ANSIAISC 341-05 'SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS'.
3. STRUCTURAL STEEL SHALL COMPLY WITH THE FOLLOWING:
a. WIDE FLANGE SHAPES - ASTM A992
b. OTHER SHAPES AND PLATES - ASTM A-36 (UNC)
c. TUBES (TS) AND HOLLOW STRUCTURAL SECTIONS (HSS) - ASTM A-500, GRADE B (FY = 46 KSI)
d. PIPE COLUMNS - ASTM A-53, GRADE B TYPE E OR S
e. DEFORMED BAR ANCHORS (DBA) - ASTM A-496, WELDED IN ACCORDANCE WITH AWS D1.1
f. HEADED STUD ANCHORS (HSA) - ASTM A-108, GRADE 1015 STEEL AND WELDED IN ACCORDANCE WITH AWS D1.1 FOR TYPE 'B'. USE 3/4" DIAMETER STUDS, UNLESS NOTED OTHERWISE.
g. THREADED ROD - ASTM A-449
3. CONNECTIONS SHALL COMPLY WITH THE STRUCTURAL DRAWINGS UNLESS WRITTEN APPROVAL TO CHANGE IS GIVEN BY THE STRUCTURAL ENGINEER.
4. ALL SHOP FABRICATIONS SHALL BE PERFORMED BY AN APPROVED FABRICATOR IN ACCORDANCE WITH SECTIONS 1702 AND 1704 OF THE IBC OR WITH SHOP INSPECTION BY AN INDEPENDENT AGENCY IN ACCORDANCE WITH SECTION 1704.2 OF THE IBC.
5. WELDING
a. ALL WELDING AND CUTTING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS IN ACCORDANCE WITH ANSIAWS D1.1 (LATEST EDITION).
b. USE E-70XX ELECTRODES UNLESS NOTED OTHERWISE. E-60XX MAY BE USED FOR WELDING STEEL DECKS.
c. ALL INTERSECTING STEEL SHAPES WHICH ARE NOT CONNECTED WITH BOLTS SHALL BE WELDED TOGETHER WITH A FILLET WELD ALL AROUND UNLESS NOTED OTHERWISE. WHERE WELD SIZES ARE NOT SHOWN USE THE FOLLOWING:
1) WHERE ALL CONNECTED PARTS ARE THICKER THAN 1/4", WELD IS 1/16" LESS THAN THE THICKNESS OF THE THINNEST PART.
2) WHERE ANY OF THE CONNECTED PARTS IS LESS THAN 1/4" THICK, WELD IS SAME AS THICKNESS OF THE THINNEST PART.
d. WELDING OF HSAs AND DBAs SHALL CONFORM TO THE MANUFACTURER'S SPECIFICATIONS.
d. WHEREVER POSSIBLE, WELDS SHALL BE SHOP WELDS. SPECIAL CONSIDERATIONS, SUCH AS ITEMS WHICH MAY NEED ADJUSTMENT AT THE SITE, REQUIRE THAT SOME WELDS BE FIELD WELDS, WHERE QUESTIONS OR DISCREPANCIES OCCUR THE CONTRACTOR SHALL COORDINATE THE WORK BETWEEN THE SHOP FABRICATOR AND THE STEEL ERECTOR.
6. BOLTING
a. UNLESS NOTED OTHERWISE, ALL STRUCTURAL STEEL TO STEEL CONNECTIONS SHALL USE HIGH STRENGTH BOLTS CONFORMING TO ASTM A-325.
b. UNLESS NOTED OTHERWISE, ALL BOLTING IS CLASSIFIED AS NON-SLIP CRITICAL BEARING TYPE CONNECTIONS WITH THREADS INCLUDED IN SHEAR PLANE. TIGHTEN BOLTS TO A SNUG TIGHT CONDITION, WITH ALL PILES OF THE JOINT IN FIRM CONTACT.
c. AT OVERSIZED AND SLOTTED HOLES, WASHERS SHALL CONFORM TO ASTM F-436 AND COMPLETELY COVER THE HOLE.
d. WHERE A STEEL BEAM TO BEAM CONNECTION IS NOT SHOWN, PROVIDE AN AISC STANDARD FRAMED CONNECTION SIZED FOR 1/2 OF THE TOTAL LOAD CAPACITY OF THE BEAM FOR THE SPAN AND STEEL SPECIFIED.
7. FABRICATORS AND SUPPLIERS SHALL COORDINATE PAINT/FINISHES WITH REQUIREMENTS FOR DIRECT APPLIED INSULATION, FIREPROOFING, ETC. AS NOTED IN THE PROJECT SPECIFICATIONS.
8. WHEN DETERMINING THE FIRE RESISTANCE OF ASSEMBLIES, USE THE FOLLOWING: STEEL ROOF MEMBERS ARE CONSIDERED UN-RESTRAINED AND STEEL FLOOR FRAMING MEMBERS ARE CONSIDERED RESTRAINED. UNLESS NOTED OTHERWISE, ALL HORIZONTAL FRAMING MEMBERS SHALL BE FRICTED WITH THE NATURAL GROUT IN UP.

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10. STEEL FABRICATORS MUST BE ON DFCM'S APPROVED FABRICATORS LIST. THIS LIST CAN BE FOUND ON THE DFCM WEB-SITE AT: [http://dfcm.utah.gov/downloads/dsds\\_officialapproved\\_fabricator\\_list\\_08.pdf](http://dfcm.utah.gov/downloads/dsds_officialapproved_fabricator_list_08.pdf).

G. MASONRY

- 1. ALL HOLLOW MASONRY UNITS SHALL CONFORM TO ASTM C-90 TYPE 1.
fm (MINIMUM) 1,500 PSI
MINIMUM UNIT STRENGTH - 1,900 PSI (TESTED IN ACCORDANCE WITH ASTM C-140)
2. ALL GROUT (SITE MIXED OR PRE-MIXED) SHALL CONFORM TO ASTM C-419 OR BE PROPORTIONED PER TABLE 2103.12 OF THE IBC AND SHALL BE PLACED WITH SUFFICIENT WATER FOR POURING WITHOUT SEGREGATION. DO NOT USE MORTAR FOR GROUT. MECHANICALLY VIBRATE ALL GROUT.
3. GROUT STOPS SHALL BE AN APPROVED PRODUCT DESIGNED AND MANUFACTURED FOR USE AS A GROUT STOP. GROUT STOP SUBMITTALS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER FOR REVIEW. OTHER GROUT STOP MATERIALS SUCH AS ASPHALT IMPREGNATED MATERIALS ARE NOT PERMITTED.
4. MORTAR SHALL BE TYPE S AND SHALL BE PROPORTIONED ACCORDING TO TABLE 2103.8(1) OF THE IBC.
5. ALL MASONRY WORK SHALL CONFORM TO CHAPTER 21 OF THE IBC.

H. TIMBER

- 1. WOOD GRADES (UNLESS NOTED OTHERWISE)
a. ALL FRAMING LUMBER SHALL BE DOUGLAS FIR/LARCH CLEARLY MARKED WITH A STAMP BY WPPA APPROVED AGENCY AND SHALL BE GRADED AS FOLLOWS:
1) HORIZONTAL MEMBERS, JOISTS & RATTERS: NO. 2, BEAMS & STRINGERS: NO. 2
2) VERTICAL MEMBERS, POST & TRIMMERS: NO. 1, STUDS: NO. 2
b. ALL FRAMING IN CONTACT WITH FOOTINGS, FOUNDATIONS OR SLABS ON GRADE SHALL BE PRESSURE TREATED OR TIMBERSTRAND LSL TREATED LUMBER WITH EQUIVALENT STRESS GRADES TO TYPICAL FRAMING MEMBERS.
c. UNLESS NOTED OTHERWISE, ALL ENGINEERED LUMBER SHALL BE FURNISHED BY TRUS-JOIST CORPORATION OR APPROVED EQUAL AND SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:
MODULUS OF ELASTICITY FLEXURAL STRESS RATING
LVL: 1,900,000 PSI 2,600 PSI
PSL: 2,000,000 PSI 2,900 PSI
SL: 1,900,000 PSI 2,250 PSI
2. SHEATHING SHALL BE APA RATED SHEATHING, EXPOSURE I, EXTERIOR GLUE AND PANEL INDEX RATING AS NOTED BELOW UNLESS NOTED OTHERWISE:
LOCATION THICKNESS PANEL INDEX
ROOFS: 19'32" 32/16
3. INDIVIDUAL PIECES OF SHEATHING AT ROOF, FLOOR, AND SHEAR WALLS SHALL NOT BE SMALLER THAN 24" IN EITHER DIRECTION AND SHALL SPAN A MINIMUM OF TWO OR INTERIOR SUPPORTS IN FIELD OF PANEL.
4. ALL 23'32" FLOOR SHEATHING SHALL BE TONGUE AND GROOVE UNLESS NOTED OTHERWISE.
5. CONNECTIONS, FASTENERS, AND ADHESIVE
a. ALL BOLTS THRU WOOD SHALL BE ASTM A307 AND SHALL HAVE HARDENED WASHERS UNDER ASTM A563 NUTS AND HEX NUT AND BOLT HEADS.
b. UNLESS NOTED OTHERWISE, 10d COMMON NAILS SHALL BE USED TO FASTEN ALL PLYWOOD SHEATHING TO SUPPORTING JOISTS, LEDGERS OR BLOCKING AS FOLLOWS:
1) BOUNDARY NAILING: 18d, 4" O.C. AT ALL ROOF AND FLOOR SHEATHING INTO BEARING AND/OR SHEAR WALLS, TOP & BOTTOM OF WALLS.
2) PANEL EDGE NAILING: 6d, 6" O.C. AT ALL OTHER PLYWOOD PANEL EDGES.
3) PANEL FIELD NAILING: 6d, 12" O.C. AT INTERIOR SUPPORTS IN FIELD OF PANEL.
NAILS SHALL BE GALVANIZED OR STAINLESS STEEL AT EXPOSED LOCATIONS OR IN TREATED WOOD (SEE NOTE BELOW FOR FASTENERS CONNECTED TO OR IN CONTACT WITH TREATED WOOD). THE HEAD OF ALL NAILS SHALL BE DRIVEN FLUSH WITH THE SURFACE OF THE SHEATHING.
c. ALL NAILS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:
NAIL SIZE SHANK DIAMETER INTO SUPPORT MEMBER
6d 0.113" 1.25"
8d 0.131" 1.50"
10d 0.148" 1.83"
12d 0.148" 1.83"
16d 0.162" 1.75"
d. ALL FRAMING ANCHORS, POST CAPS, HOLD DOWNS, COLUMN BASES ETC. TO BE PROVIDED BY SIMPSON OR APPROVED EQUAL.
e. FASTENERS CONNECTED TO OR IN CONTACT WITH PRESERVATIVE-TREATED AND/OR FIRE-RETARDANT-TREATED WOOD (EXCEPT FOR TIMBERSTRAND LSL TREATED LUMBER AND BORATE BASED TREATMENTS) SHALL BE OF G-185 HOT-DIPPED, ZINC-COATED, GALVANIZED STEEL OR 304 OR 316 STAINLESS STEEL. STAINLESS STEEL AND GALVANIZED STEEL SHALL NEVER BE USED IN CONTACT WITH EACH OTHER.
6. EXCEPT WHERE NOTED OTHERWISE, THE NUMBER AND SIZE OF NAILS CONNECTING WOOD MEMBERS SHALL NOT BE LESS THAN THAT SET FORTH IN IBC TABLE 2304.9.1. CONNECTIONS FOR MULTIPLE PIECES OF ENGINEERED LUMBER PIECES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
7. UNLESS NOTED OTHERWISE, ALL HORIZONTAL FRAMING MEMBERS SHALL BE INSTALLED WITH THE NATURAL GROWN UP.

I. STATEMENT OF SPECIAL INSPECTIONS

- 1. SPECIAL INSPECTIONS AND TESTING ARE TO BE PROVIDED AS REQUIRED BY IBC SECTIONS 1704 AND 1708 AND OTHER APPLICABLE SECTIONS OF THE IBC. ITEMS REQUIRING SPECIAL INSPECTION ARE IDENTIFIED IN THE SPECIAL INSPECTION SCHEDULE ON SHEET X.XX. THE TYPE AND FREQUENCY OF TESTING AND SPECIAL INSPECTIONS SHALL BE AS NOTED IN THE SPECIAL INSPECTION SCHEDULE, JOB SPECIFICATIONS, AND ACCORDANCE WITH IBC SECTION 109 AND CHAPTER 17.
2. ALL TESTING AND SPECIAL INSPECTION SHALL BE PROVIDED BY A QUALIFIED SPECIAL INSPECTION AGENCY EMPLOYED AS OUTLINED IN THE JOB SPECIFICATIONS. REPORTS OF FINDINGS OR DISCREPANCIES SHALL BE NOTED AND FORWARDED TO THE CONTRACTOR, ARCHITECT, ENGINEERS, AND BUILDING OFFICIAL IN A TIMELY MANNER.
3. STRUCTURAL OBSERVATION VISITS SHALL BE PERFORMED BY A REPRESENTATIVE FROM ARW ENGINEERS IN ACCORDANCE WITH THE CONTRACT AS NEEDED TO OBSERVE THE CONSTRUCTION OF CRITICAL BUILDING ELEMENTS (I.E. FOOTINGS, BRACED FRAMES, MOMENT FRAMES, DRAG STRUTS AND THEIR CONNECTIONS, COLLECTORS, AND ROOF AND FLOOR DIAPHRAGMS). STRUCTURAL OBSERVATION REPORTS FOR EACH VISIT SHALL BE SENT DIRECTLY TO THE ARCHITECT FOR DISTRIBUTION TO THE CONTRACTOR AND BUILDING OFFICIAL. STRUCTURAL OBSERVATION VISITS SHALL NEITHER BE CONSTRUED AS SPECIAL INSPECTION NOR APPROVAL OF COMPLETED CONSTRUCTION.
4. IN ACCORDANCE WITH IBC 1704.1, THE CONTRACTOR SHALL SUBMIT A WRITTEN CONTRACTOR'S STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND OWNER PRIOR TO CONSTRUCTION OF ANY SEISMIC/WIND-FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC/WIND SYSTEM, OR COMPONENT IDENTIFIED IN THIS QUALITY ASSURANCE PLAN AND AS NOTED ON THE PLANS WITH A CIRCLE "1".

SPECIAL INSPECTION SCHEDULE 1,2

ESTABLISHED PER 2006 IBC SECTION 109 AND CHAPTER 17

Table with 5 columns: ITEM, CONTINUOUS, PERIODIC, REFERENCE, COMMENTS. Rows include PRE-FAB CONSTRUCTION (IBC 1704.2), STEEL CONSTRUCTION (IBC 1704.3), CONCRETE CONSTRUCTION (IBC 1704.4), MASONRY CONSTRUCTION (IBC 1704.5), and WOOD (IBC 1704.6 & 1707.3).

GENERAL SPECIAL INSPECTION NOTES :

- 1. THE ITEMS MARKED WITH A "1" IN THE SPECIAL INSPECTION SCHEDULE SHALL BE INSPECTED IN ACCORDANCE WITH IBC CHAPTER 17 BY A CERTIFIED SPECIAL INSPECTOR FROM AN ESTABLISHED TESTING AGENCY. FOR MATERIAL SAMPLING AND TESTING REQUIREMENTS, REFER TO THE MATERIAL SAMPLING AND TESTING SECTION, THE PROJECT SPECIFICATIONS, AND THE SPECIFIC GENERAL NOTES SECTIONS. THE TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE ARCHITECT, ENGINEER, CONTRACTOR, AND BUILDING OFFICIAL. ANY ITEMS WHICH FAIL TO COMPLY WITH THE APPROVED CONSTRUCTION DOCUMENTS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF DISCREPANCIES ARE NOT CORRECTED, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL, ARCHITECT, AND ENGINEER PRIOR TO COMPLETION OF THAT PHASE OF WORK. SPECIAL INSPECTION TESTING REQUIREMENTS APPLY EQUALLY TO ALL BIDDER DESIGNED COMPONENTS.
2. ANY CONSTRUCTION OR MATERIAL THAT HAS FAILED INSPECTION SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT.
3. CONTINUOUS SPECIAL INSPECTION MEANS THE FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED. PERIODIC SPECIAL INSPECTION MEANS THE PART-TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK. (IBC SECTION 1702)

STRUCTURAL SHEET INDEX table with columns SHEET NO. and SHEET TITLE. Lists sheets SC001 through SF502.

LEGEND OF SYMBOLS AND ABBREVIATIONS table with columns SYMBOL, DESCRIPTION, and ELEVATION. Lists symbols for AB, ADV, ARCH, BLW, etc.

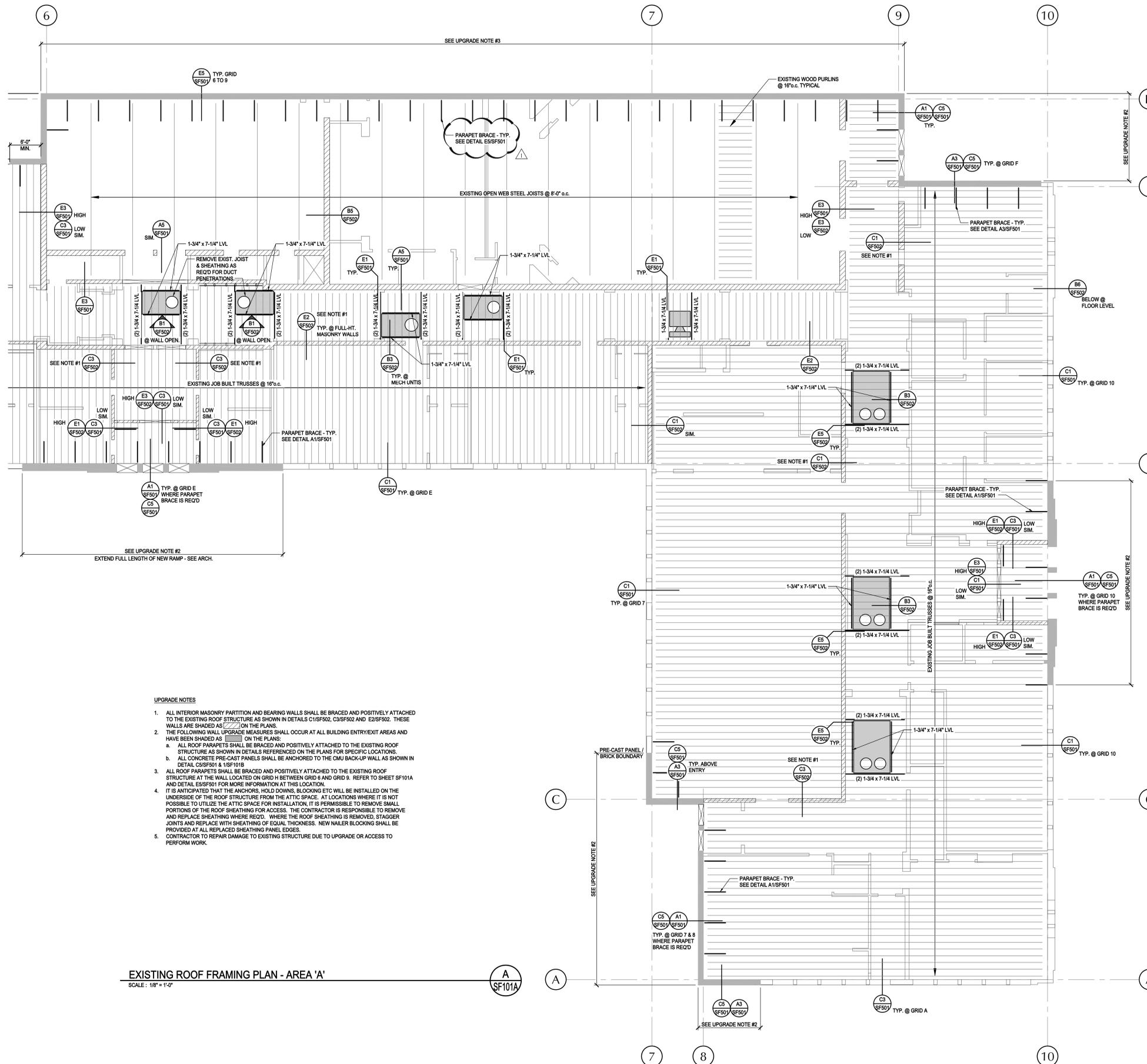
Axis Architects logo and contact information. Includes address: 362 SOUTH DENVER STREET (440 EAS) SALT LAKE CITY, UTAH 84111. Phone: 801-786-4656. Website: www.axisarchitects.com. Project name: Libbie Edwards School Remodel Utah School For The Deaf and Blind.

Revision table with columns Revision #, Date, and Description. Shows revision 1 dated 06 JULY 2009.

Axis Job #, Owner #, Date, Drawn, Checked table. Shows job # 0912, owner # DFCM 08260200, date June 22, 2009.

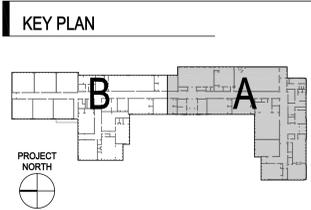
STRUCTURAL NOTES AND SCHEDULES

SG001



- UPGRADE NOTES**
- ALL INTERIOR MASONRY PARTITION AND BEARING WALLS SHALL BE BRACED AND POSITIVELY ATTACHED TO THE EXISTING ROOF STRUCTURE AS SHOWN IN DETAILS C1/SF502, C3/SF502 AND E2/SF502. THESE WALLS ARE SHADED AS [diagonal lines] ON THE PLANS.
  - THE FOLLOWING WALL UPGRADE MEASURES SHALL OCCUR AT ALL BUILDING ENTRY/EXIT AREAS AND HAVE BEEN SHADED AS [diagonal lines] ON THE PLANS.
    - ALL ROOF PARAPETS SHALL BE BRACED AND POSITIVELY ATTACHED TO THE EXISTING ROOF STRUCTURE AS SHOWN IN DETAILS REFERENCED ON THE PLANS FOR SPECIFIC LOCATIONS.
    - ALL CONCRETE PRE-CAST PANELS SHALL BE ANCHORED TO THE CMU BACK-UP WALL AS SHOWN IN DETAIL C5/SF501 & 1/SF101B.
  - ALL ROOF PARAPETS SHALL BE BRACED AND POSITIVELY ATTACHED TO THE EXISTING ROOF STRUCTURE AT THE WALL LOCATED ON GRID H BETWEEN GRID 6 AND GRID 9. REFER TO SHEET SF101A AND DETAIL E5/SF501 FOR MORE INFORMATION AT THIS LOCATION.
  - IT IS ANTICIPATED THAT THE ANCHORS, HOLD DOWNS, BLOCKING ETC WILL BE INSTALLED ON THE UNDERSIDE OF THE ROOF STRUCTURE FROM THE ATTIC SPACE. AT LOCATIONS WHERE IT IS NOT POSSIBLE TO UTILIZE THE ATTIC SPACE FOR INSTALLATION, IT IS PERMISSIBLE TO REMOVE SMALL PORTIONS OF THE ROOF SHEATHING FOR ACCESS. THE CONTRACTOR IS RESPONSIBLE TO REMOVE AND REPLACE SHEATHING WHERE REQ'D. WHERE THE ROOF SHEATHING IS REMOVED, STAGGER JOINTS AND REPLACE WITH SHEATHING OF EQUAL THICKNESS. NEW NAILER BLOCKING SHALL BE PROVIDED AT ALL REPLACED SHEATHING PANEL EDGES.
  - CONTRACTOR TO REPAIR DAMAGE TO EXISTING STRUCTURE DUE TO UPGRADE OR ACCESS TO PERFORM WORK.

**EXISTING ROOF FRAMING PLAN - AREA 'A'**  
SCALE: 1/8" = 1'-0"



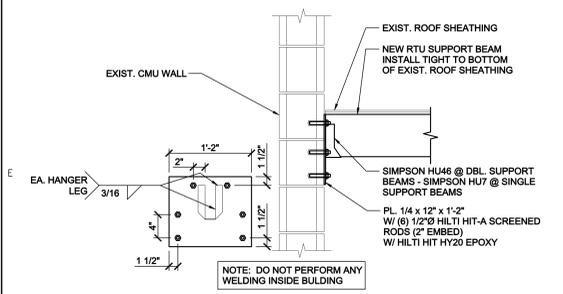
**Libbie Edwards School Remodel  
Utah School For The Deaf and Blind**  
1655 East 3300 South Salt Lake City  
Construction Documents

Revision #	Date
1	06 JULY 2009

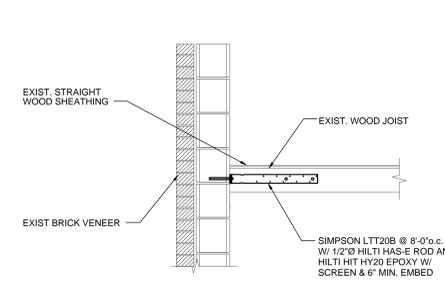
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Owner #	DFCM 08260200
Date	June 22, 2009
Drawn	
Checked	

EXISTING ROOF FRAMING PLAN - AREA 'A'

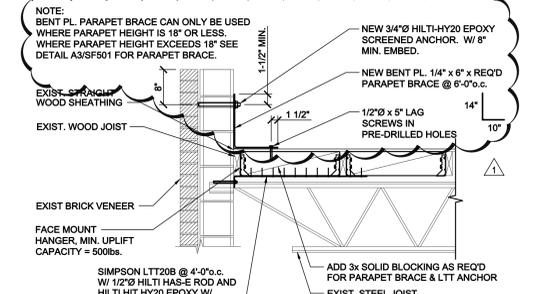
SF101A



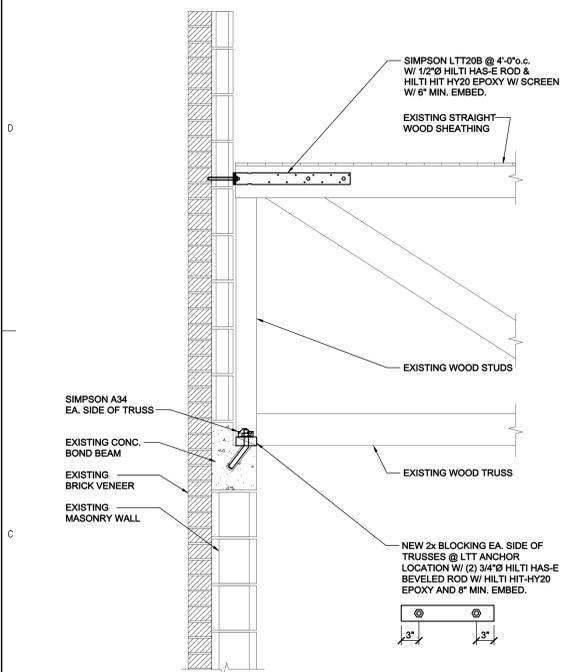
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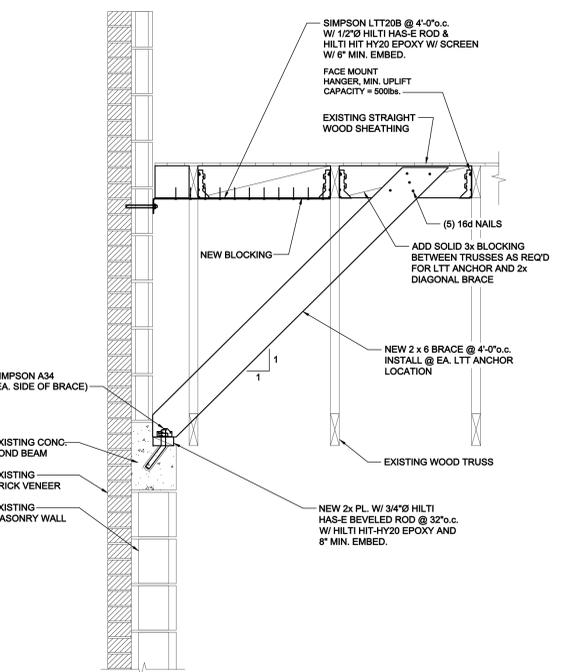
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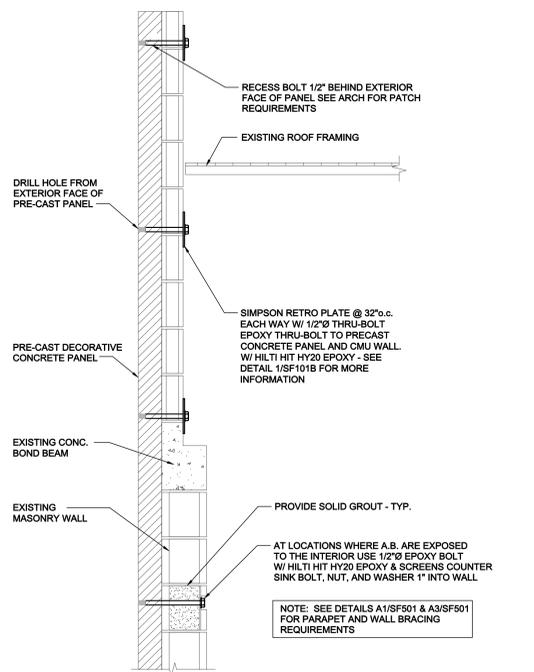
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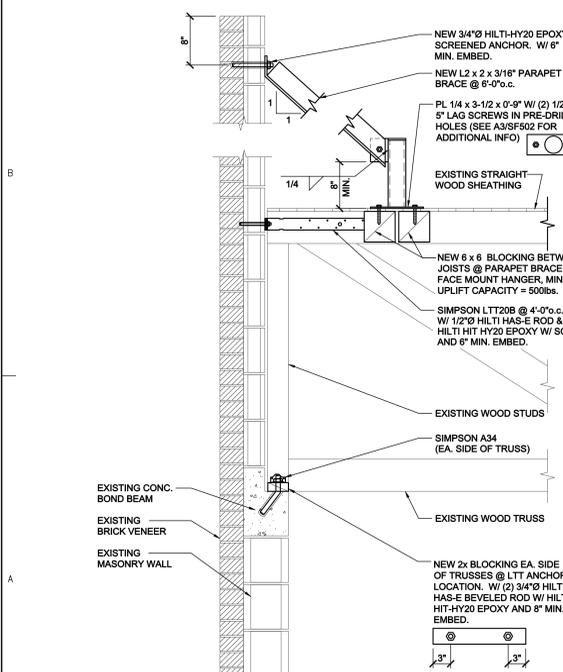
**C1** DETAIL  
SCALE = NONE



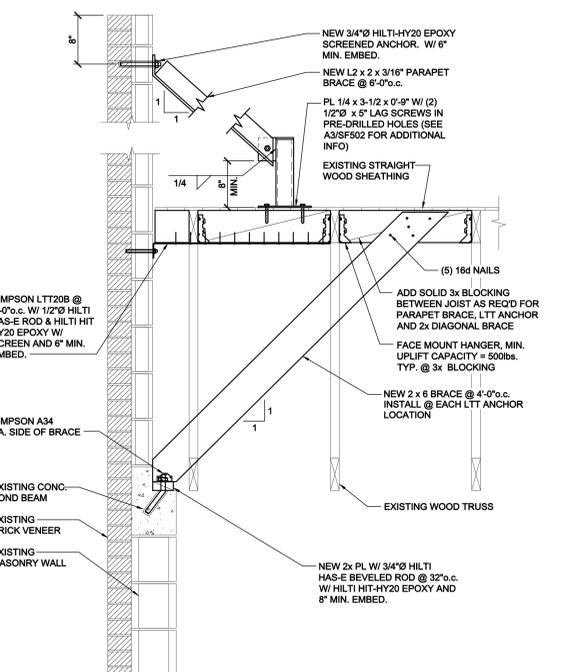
**C3** DETAIL  
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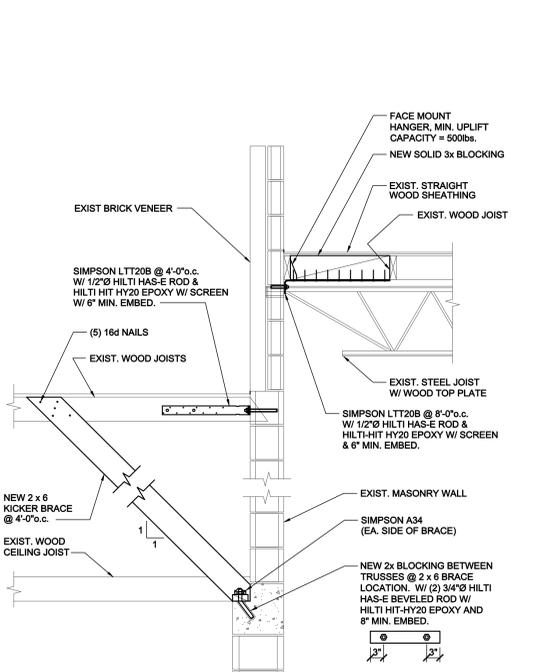
**C5** DETAIL  
SCALE = NONE



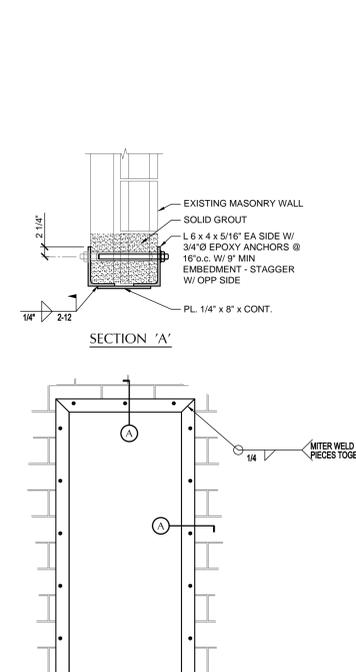
**A1** DETAIL  
SCALE = NONE



**A3** DETAIL  
SCALE = NONE

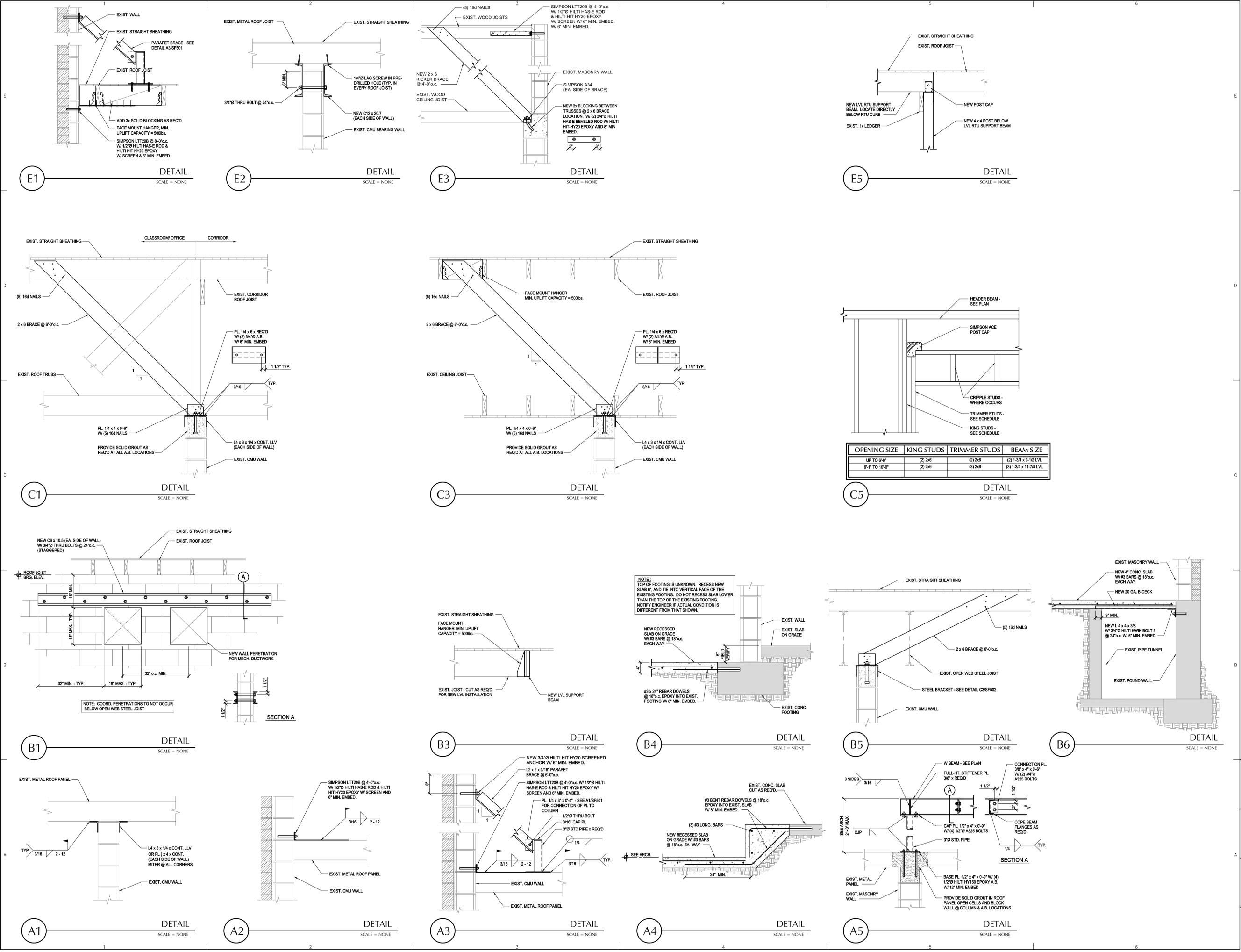


**A5** DETAIL  
SCALE = NONE



**A6** DETAIL  
SCALE = NONE

Revision #	Date
1	06 JULY 2009
Axis Job #	0912
Owner #	DFCM 08260200
Date	June 22, 2009
Drawn	
Checked	



**E1** DETAIL  
SCALE = NONE

**E2** DETAIL  
SCALE = NONE

**E3** DETAIL  
SCALE = NONE

**E5** DETAIL  
SCALE = NONE

**C1** DETAIL  
SCALE = NONE

**C3** DETAIL  
SCALE = NONE

**C5** DETAIL  
SCALE = NONE

**B1** DETAIL  
SCALE = NONE

**B3** DETAIL  
SCALE = NONE

**B4** DETAIL  
SCALE = NONE

**B5** DETAIL  
SCALE = NONE

**B6** DETAIL  
SCALE = NONE

**A1** DETAIL  
SCALE = NONE

**A2** DETAIL  
SCALE = NONE

**A3** DETAIL  
SCALE = NONE

**A4** DETAIL  
SCALE = NONE

**A5** DETAIL  
SCALE = NONE

OPENING SIZE	KING STUDS	TRIMMER STUDS	BEAM SIZE
UP TO 6'-0"	(2) 2x6	(2) 2x6	(2) 1-3/4" x 9-1/2" LVL
6'-1" TO 10'-0"	(2) 2x6	(3) 2x6	(3) 1-3/4" x 11-7/8" LVL

NOTE:  
TOP OF FOOTING IS UNKNOWN. RECESS NEW SLAB 6" AND INTO VERTICAL FACE OF THE EXISTING FOOTING. DO NOT RECESS SLAB LOWER THAN THE TOP OF THE EXISTING FOOTING. NOTIFY ENGINEER IF ACTUAL CONDITION IS DIFFERENT FROM THAT SHOWN.

NOTE: COORD. PENETRATIONS TO NOT OCCUR BELOW OPEN WEB STEEL JOIST

Revision #	Date
1	06 JULY 2009

Axis Job #	0912
Owner #	DFCM 08260200
Date	June 22, 2009
Drawn	
Checked	

DETAILS

**SF502**

## MECHANICAL ADDENDUM

**DATE:** July 10, 2009  
**PROJECT NO:** 9166  
**PROJECT:** Libbie Edwards

### DIVISION - 15

#### DRAWINGS

SHEET - MH101A

1. Provide DEF-7 on roof above restroom 120B. Provide 12x12 EG-1 with 8x8 ductwork to DEF-7. DEF-7 is scheduled on ME601.

#### SPECIFICATIONS

SECTION - 220500 common work results for plumbing  
Replace with the following (for the options highlighted):

1. 2.8C 1. Finish: Polished chrome-plated and rough brass.
2. 2.8D.1: Finish: Polished chrome-plated and rough brass.
3. 2.8E.1: set screw or spring clips.
4. 2.8F.1: set screw or spring clips.
5. 3.2L.1.f: one-piece or split casing
6. 3.2L.1.g: One-piece, stamped-steel type or split-plate
7. 3.2L.1.h: rough-brass
8. 3.2L.1.i: one-piece or split casing
9. 3.2L.1.k: set screw or spring clips
10. 3.2L.2.b: concealed or exposed-rivet
11. 3.2L.2.g: rough-brass
12. 3.2L.2.h: concealed or exposed-rivet
13. 3.2L.2.h: concealed or exposed-rivet
14. 3.2P.3.a: steel
15. 3.7A.7 delete 3.7A.7

#### PRIOR APPROVALS

The following manufacturers, trade names and products are allowed to bid on a name brand only basis with the provision that they completely satisfy all and every requirement of the drawings, specifications and all addenda shall conform to the design, quality and standards specified, established and required for the complete and satisfactory installation and performance of the building and all its respective parts.

<u>Item</u>	<u>Manufacturer</u>	<u>Comments</u>
Registers, Grilles and Ceiling diffusers	Carnes	
Roof exhaust fans	Carnes	
Water heater WH-1	Lochinvar	
Pump Suction diffusers	Flo Fab	
Triple duty valves	Flo Fab	

July 10, 2009

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Pressure gauges	Flo Fab
Thermometers	Flo Fab
Airtrol fittings	Flo Fab
Flex connectors	Flo Fab
Y-strainers	Flo Fab
Manual air vents	Flo Fab
Auto Air vents	Flo Fab
Gauge cocks	Flo Fab
Venturi	Flo Fab
Balancing valves	Flo Fab



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## Electrical Addendum #1

**Project Name: Libbie Edwards**

**Date: July 10, 2009**

The following modification, clarifications, and/or corrections shall become part of the original bid documents.

### **Sheet EE-002**

1. In the Lighting Control Riser Diagram change the Note #4 to read:  
  
“Provide lighting contactors as required for a complete installation. Provide over ride switches for the system. Coordinate with the supplier for type of over ride switch”.
2. In the Power Single Line Diagram detail rename panel “L1A2” on the left feeding from “L1A1” to panel “LKA”.
3. In the mechanical equipment schedule rename “CP-1” to “RCP-1”.
4. Delete “EC-1” & Note 8 from the mechanical equipment schedule.
5. Add circuit “LKA-14” with a load of 528VA for “RCP-1”.

### **Sheet EDP-101B**

1. Change reference note 4 to “Not used”.

### **Sheet EDL-101B**

1. Change reference note 5 to “Not used”..

### **Sheet EFA-101**

1. Change reference note 5 to special note 5.

### **Sheet EP-101A, EP-101B**

1. See mechanical drawings for exact location of mechanical equipment prior to rough-in.
2. Move unit DEF-7 to Restroom 128 (on roof). Refer to mechanical drawings for exact location.
3. Add four weather-proof GFI outlets on roof. Locate the outlets within 25 feet of exhaust fans. Tie the outlets to circuit “L1A2-2.”
4. All exhaust fans are located on the roof. Refer to mechanical drawings for exact locations. Provide weather-proof disconnects.



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## Sheet EP-401A

1. See mechanical drawings for exact location of mechanical equipment prior to rough-in. Tie "RCP-1" to circuit "LKA-14".
2. Circuit "LKA-10" shall only feed equipment #6.

## Sheet EL-101A

1. Change reference note 8 to "Not used".

### Approved Manufacturers

The following manufacturers are approved to bid. Approval of the equipment from catalog information indicates that the brand name and general characteristics are acceptable to the Engineer. Any conflict arising from use of the substituted equipment shall be the responsibility of the supplier who shall bear all costs required to make the equipment comply with the intent of plans and specifications:

<u>Type</u>	<u>Manufacturer</u>	<u>Catalog Number</u>
T-1	HEWILLIAMS	HETG-S24-232-A-EBSDR*MG*S50-UNV
T-1A	HEWILLIAMS	HETG-S22-217-A-EBSD2*MG*S50-UNV
T-1B	HEWILLIAMS	HETG-S24-232-A-EB2-UNV
T-2	HEWILLIAMS	V820-4-232-DR-EB2-UNV
T-3	HEWILLIAMS	80-4-232-WG11-VBY-3-EB2-UNV
T-3A	HEWILLIAMS	76-4-232-EB2-120
T-4	LSI	SIFCL-WB-250PRMH-F-MT-SCBA W/LAMP
T-5	HEWILLIAMS	WPRZ-242T-GX24q-4-EM-120
T-6	HEWILLIAMS	LPT-24-232-SA12125-EB2-UNV
T-7	HEWILLIAMS	GL-4-632-SCHA118-EB4/2 (OR 3/3)-UNV
T-8	HEWILLIAMS	HES-S24-232-A-EBSD2*MG*S50-UNV
T-8A	HEWILLIAMS	HES-S24-232-A-EB2-UNV
T-9	TIMESQUARE	C3MH16-XX-T1/SG8-XX
T-12	TRACELITE	TL307EX-PSMH-250-MT/4SQBO-S11G-20- S-SCBA
T-13	VANTAGE	A4MHO-20W-E-X/4400-SCL
T-14	HK LIGHTING	ZX20-RMB-MH-120/277-SCBA-ST(XX)T- RMB BALLAST
T-15	LSI	EURD-EB-42-CFL2-F-UE-SCBA
EX-1	EXITRONIX	GVEX-U-BP-WB-WH
EX-2	EXITRONIX	GVEX-U-BP-WB-WH